The Calendar

OF THE

University of Queensland

FOR THE YEAR

. . 1922 . .

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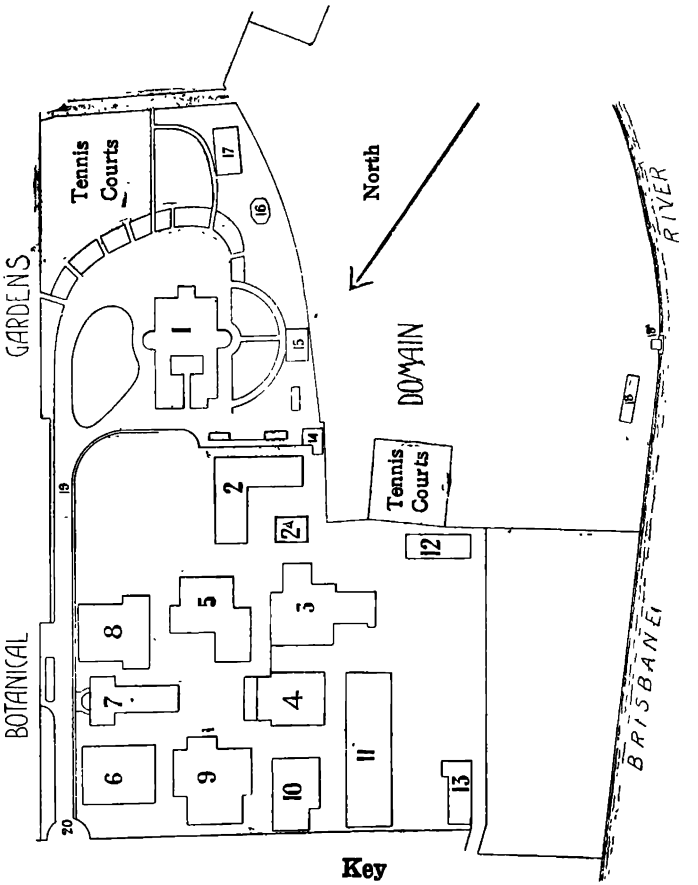
Plan of University and Grounds



Key

1. University Main Building.
2. Chemistry Building.
2A. Walter and Eliza Hall School of Applied Chemistry.
*3. Engineering Building.
*4. Physics and Biology Building.
*5. Geology Building.
6–11. Central Technical College.
12. Metallurgy and Assaying.
13. Engineering Laboratory.
14. Biology Animal Yard.
15. Women's Common Room.
16, 17. Men's Common Room.
18. University Boat Shed.
18A. Pontoon.
19. Road.
20. Entrance Gates, George Street.

These are Central Technical College Buildings, partly occupied by the University.

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THE UNIVERSITY OF QUEENSLAND.

PREFACE.

THE University of Queensland was established and endowed by an Act of the Legislature of Queensland, which received the Royal assent on 10th December, 1909.

This Act, "*The University of Queensland Act of* 1909," created a body corporate consisting of a Senate and Council and Graduate and Undergraduate Members with perpetual succession, and a Common Seal.

The Senate.—The Senate, which is the Governing Body of the University, consists of twenty persons; the first Members were appointed by the Governor in Council, and their names were published in the *Government Gazette* on 15th April, 1910. At this date the University and Senate is deemed by the Act to have been constituted.

An election of ten members of the Senate by the Council was held on 14th February, 1920. Members then elected will hold office for three years from 1st March, 1920. The remaining ten members of the Senate were appointed by the Governor in Council.

The Senate elects. at its first meeting held after the first Tuesday in March of every year, two of its members to be respectively Chancellor and Vice-Chancellor of the University.

Powers of Senate.—The Senate has the entire management and control of the affairs, concerns, and property of the University, and is empowered to appoint Deans, Professors, Lecturers, Examiners, and other officers and servants of the University.

Statutes of the University.—The Senate has power to make, alter, and repeal Statutes with respect to the management, good government, and discipline of the University, the course of education therein, and other matters. Such Statutes, when sealed with the Common Seal, are transmitted to the Secretary for Public Instruction for the approval of the Governor in Council, and, upon being approved, are published in the *Government Gazette*. When so published, the Statutes have the force of law in Queensland. Copies of every Statute must be laid before both Houses of Parliament; and either House may annul any Statute wholly or in part without prejudice to the validity of anything done in the meantime under the provisions of the Statute.

The Council.—The Act provided for the constitution of a Council as soon as the Graduates of the University (exclusive of Graduates of other Universities who have been admitted to Degrees in the University) were twenty-five in number. The Council was actually constituted on 25th December, 1915. The first meeting was held on 22nd February, 1916. The Council consists of all Members and past Members of the Senate; Doctors and Masters, and other Graduates of the University of three years' standing; members of Institutions outside Queensland authorized to grant Degrees, Diplomas, Licences, or Certificates, who may under the Statutes be admitted to be

Members of the Council; persons who have made any gift or grant to the University of not less than £500 in the aggregate; and such persons as the Governor in Council may appoint as Representatives of any Commercial, Industrial, Scientific, Professional, or Educational Society, Institution, or Association within Queensland. The Council elects a Warden annually.

Education.—The Senate is empowered to cause instruction to be given to Students, whether matriculated or not, and to grant Degrees, Diplomas, and Certificates in any branch of knowledge. Honorary Degrees and other distinctions may be conferred upon approved persons. No religious test may be administered to any person in order to entitle him to be admitted as a Student of the University, or to hold office therein or to graduate thereat. All the benefits, advantages, and privileges of the University extend to women equally with men.

Matriculation.—Candidates for Degrees in the University must satisfy the Matriculation requirements of the Faculty which they propose to enter. These requirements differ in the various Faculties. Candidates must pass in the required subjects at the Public Examinations held annually by the University.

Candidates who have attained the age of twenty-five years may be admitted to Matriculation in the Faculties of Arts and of Science upon passing a Special Examination.

The Faculties.—There are five Faculties in the University—namely, Arts, Science, Engineering, Law, and Medicine—but of these only the three first mentioned have been organized for imparting instruction.

Faculty of Arts.—In the Faculty of Arts two Degrees are given—viz., Bachelor of Arts and Master of Arts. The studies for the Degree of Bachelor of Arts extend over a period of not less than three completed academical years, during which time Students are required to attend lectures (unless exempted as unable to attend), and pass the three annual examinations.

Bachelors of Arts of at least two years' standing may proceed to the degree of Master of Arts.

A Diploma for Journalism is given to persons who have had at least three years' practical experience of Journalism and who complete a prescribed course of academic study extended over two completed academic years.

Faculty of Science.—In the Faculty of Science, the Degrees of Bachelor of Science, Master of Science, and Doctor of Science are given. Candidates for the Degree of Bachelor of Science must attend lectures, practise laboratory work, and pass examinations comprised in a course of study extending over three completed academical years.

The Degree of Bachelor of Applied Science in Industrial Chemistry will be given after a course of study extended over four completed academical years in the Walter and Eliza Hall School of Applied Chemistry, founded by the Walter and Eliza Hall Trustees in 1915, and finished in March, 1917.

Faculty of Engineering.—In the Faculty of Engineering, the Degree of Bachelor of Engineering is given in the sub-departments of: (*a*) Civil, (*b*) Mechanical, and (*c*) Mining Engineering. The Courses of study for the Bachelor's Degree in each case extend over four years. The Degree of Master of Engineering is also given.

A Diploma in Mechanical and Electrical Engineering is given by the University upon a course of study followed in such Technical Colleges and institutions as may be approved by the Senate on the recommendation of the Faculty of Engineering. Candidates for the Diploma must submit evidence that they are or have been engaged in engineering or in a trade closely allied thereto.

Honours.—Degrees with Honours are given to candidates who have taken Honours in the Final Year of their course. The term "Honours" is restricted to the Final Examination for Degrees.

Evening Lectures.—Provision is made for giving instruction in the evening as well as in the day time in the Faculties of Arts and Science. Evening Students are permitted to extend their course of study over a period of five years.

No work in engineering subjects is done at the University in the evening, but a course has been arranged by which a candidate may, after five years' work at a Technical College in the evening, obtain exemption from the first two years of the day engineering courses and enter the third year of the day courses in engineering upon matriculation in the Faculty of Engineering if they are proceeding to a Degree.

External Students.—In cases where persons who have matriculated are unable to attend lectures at or in connection with the University, exemption from lecture attendance is granted. Their studies are under the Director of Correspondence Studies, and they are deemed to be "External Students."

Revenue of the University.—For the first seven years of the existence of the University, the Senate received the sum of £10,000 annually for the purpose of defraying the charges and expenses connected with the establishment, management, and control of the University, and after this period of seven years such sum as is appropriated by Parliament. The present endowment is £16,100.

Public Examinations.—Public Examinations for the purpose of testing the proficiency of such Candidates as may present themselves for examination are held in November. Full particulars of these examinations will be found in the Manual of Public Examinations published by the University.

Universities' Examinations in Music.—The Universities of Melbourne, Adelaide, Tasmania, Queensland, and Western Australia, and the State Conservatorium of Music of New South Wales conduct Public Examinations in Music under an agreement by which provision is made for a uniform standard and method throughout Australia. For details of these examinations reference should be made to the Manual issued by the Australian Music Examination Board.

Lectures.—The Lectures of the University are open to persons not Members of the University upon payment of the prescribed fee for each course.

Correspondence should be addressed to The Registrar, The University of Queensland, Brisbane, Queensland.

1st October, 1921.

CALENDAR

OF THE

UNIVERSITY OF QUEENSLAND.

(JANUARY) 1922—1923 (MARCH).

1922.

First Term—14th March to 20th May.

Second Term—30th May to 5th August.

Third Term—22nd August to 28th October.

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1922.

January XXXI.

1	**S**	New Year's Day.	**1**
2	M		
3	T		
4	W		
5	Th		
6	F		
7	S		
8	**S**		**2**
9	M		
10	T		
11	W		
12	Th		
13	F		
14	S		
15	**S**		**3**
16	M		
17	T		
18	W		
19	Th		
20	F		
21	S		
22	**S**		**4**
23	M		
24	T		
25	W		
26	Th	Foundation Day.	
27	F		
28	S		
29	**S**		
30	M		
31	T		

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1922.

February XXVIII.

1	W	Last day for lodging Applications for Exemption from University Work in 1922.	5
2	Th		
3	F		
4	S		
5	**S**		6
6	M		
7	T		
8	W		
9	Th		
10	F		
11	S		
12	**S**		7
13	M		
14	T		
15	W		
16	Th		
17	F		
18	S		
19	**S**		8
20	M		
21	T		
22	W		
23	Th		
24	F		
25	S		
26	**S**		
27	M		
28	T	Education Committee meets. **First Examination Period.** [Matriculation Supplementary Examination. Annual Supplementary Examinations. Final Honours Examinations. Higher Degrees Examinations. Last day for sending in Essay for Archibald Scholarship.]	

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1922.

March XXXI.

1	W	St. David.	9
2	Th	Finance Committee meets.	
3	F		
4	S		
5	**S**		10
6	M		
7	T		
8	W		
9	Th		
10	F	Senate meets. Election of Chancellor, Vice-Chancellor, and Committees.	
11	S		
12	**S**		11
13	M	Faculty of Arts meets. Last day for entering for Courses, 1922.	
14	T	**First Term begins.**	
15	W	Faculty of Science meets.	
16	Th		
17	F	St. Patrick. Faculty of Engineering meets.	
18	S		
19	**S**		12
20	M		
21	T		
22	W	Board of Faculties meets.	
23	Th		
24	F		
25	S		
26	**S**		
27	M		
28	T		
29	W	Last day for Matriculating, 1922. Last day for	
30	Th	Applications for Foundation Travelling Scholar-	
31	F	ship.	

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1922.

April XXX.

1	S		13
2	**S**		14
3	M		
4	T	Education Committee meets.	
5	W		
6	Th	Finance Committee meets.	
7	F		
8	S		
9	**S**		15
10	M		
11	T		
12	W		
13	Th	Senate meets.	
14	F	Good Friday.	
15	S	Easter Eve.	
16	**S**	Easter Day.	16
17	M	Easter Monday.	
18	T	Faculty of Arts meets.	
19	W	Faculty of Science meets.	
20	Th		
21	F	Faculty of Engineering meets.	
22	S		
23	**S**		17
24	M		
25	T		
26	W	Board of Faculties meets.	
27	Th		
28	F	Degree Day.	
29	S		
30	**S**		

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1922.

May XXXI.

1	M	Labour Day	18
2	T	Education Committee meets.	
3	W		
4	Th	Finance Committee meets.	
5	F		
6	S		
7	**S**		19
8	M		
9	T		
10	W		
11	Th		
12	F	Senate meets.	
13	S		
14	**S**		20
15	M	Faculty of Arts meets.	
16	T		
17	W	Faculty of Science meets.	
18	Th		
19	F	Faculty of Engineering meets.	
20	S	**First Term ends.**	
21	**S**		21
22	M		
23	T		
24	W		
25	Th		
26	F		
27	S		
28	**S**		22
29	M		
30	T	**Second Term begins.** Education Committee meets.	
31	W	Board of Faculties meets.	

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1922.

June XXX.

1	Th		
2	F		
3	S	King's Birthday.	
4	**S**		23
5	M		
6	T	Education Committee meets.	
7	W		
8	Th	Finance Committee meets.	
9	F		
10	S		
11	**S**		24
12	M		
13	T		
14	W		
15	Th		
16	F	Senate meets.	
17	S		
18	**S**		25
19	M	Faculty of Arts meets.	
20	T		
21	W	Faculty of Science meets.	
22	Th		
23	F	Faculty of Engineering meets.	
24	S		
25	**S**		26
26	M		
27	T		
28	W	Board of Faculties meets.	
29	Th		
30	F		

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1922.

July XXXI.

1	S		
2	**S**		27
3	M		
4	T	Education Committee meets.	
5	W		
6	Th	Finance Committee meets.	
7	F		
8	S		
9	**S**		28
10	M		
11	T		
12	W		
13	Th		
14	F	Senate meets.	
15	S		
16	**S**		29
17	M	Faculty of Arts meets.	
18	T		
19	W	Faculty of Science meets.	
20	Th		
21	F		
22	S	Faculty of Engineering meets.	
23	**S**		30
24	M		
25	T		
26	W	Board of Faculties meets.	
27	Th		
28	F		
29	S		
30	**S**		
31	M		

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1922.

August XXXI.

1	T	Education Committee meets.	31
2	W		
3	Th	Finance Committee meets.	
4	F		
5	S	**Second Term ends.** Last day for sending in Essay for Thomas Morrow Prize and Verse for Ford Memorial Prize, and for announcing Subjects for 1923.	
6	**S**		32
7	M		
8	T		
9	W		
10	Th		
11	F	Senate meets.	
12	S		
13	**S**		33
14	M		
15	T		
16	W		
17	Th		
18	F		
19	S		
20	**S**		34
21	M	Faculty of Arts meets.	
22	T	**Third Term begins.**	
23	W	Faculty of Science meets.	
24	Th		
25	F	Faculty of Engineering meets.	
26	S		
27	**S**		35
28	M		
29	T		
30	W	Board of Faculties meets.	
31	Th		

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1922.

September XXX.

1	F		
2	S		
3	**S**		**36**
4	M	Friendly Societies' Day.	
5	T	Education Committee meets.	
6	W		
7	Th	Finance Committee meets.	
8	F		
9	S		
10	**S**		**37**
11	M		
12	T		
13	W		
14	Th		
15	F	Senate meets.	
16	S		
17	**S**		**38**
18	M	Faculty of Arts meets.	
19	T		
20	W	Faculty of Science meets.	
21	Th		
22	F	Faculty of Engineering meets.	
23	S		
24	**S**		**39**
25	M		
26	T		
27	W	Board of Faculties meets.	
28	Th		
29	F	Last day for entering for Annual Examination in November, Honour Examinations in March, or for Application and Examination for Higher Degrees.	
30	S		

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1922.

October XXXI.

			40
1	**S**		
2	M		
3	T	Education Committee meets.	
4	W		
5	Th	Finance Committee meets.	
6	F		
7	S		
8	**S**		**41**
9	M		
10	T		
11	W		
12	Th		
13	F	Senate meets.	
14	S		
15	**S**		**42**
16	M	Faculty of Arts meets.	
17	T		
18	W	Faculty of Science meets.	
19	Th		
20	F	Faculty of Engineering meets.	
21	S		
22	**S**		**43**
23	M		
24	T		
25	W	Board of Faculties meets.	
26	Th		
27	F		
28	S	**Third Term ends.**	
29	**S**		
30	M		
31	T	Education Committee meets.	

November XXX.

			44
1	W		
2	Th	Finance Committee meets.	
3	F		
4	S		
5	**S**		**5**
6	M		
7	T	**Second Examination Period begins.** [Annual Degree Examinations. Final Pass Examinations.]	
8	W		
9	Th		
10	F	Senate meets.	
11	S		
12	**S**		**46**
13	M		
14	T		
15	W		
16	Th		
17	F		
18	S		
19	**S**		**47**
20	M	Public Examinations begin.	
21	T		
22	W		
23	Th		
24	F		
25	S		
26	**S**		**48**
27	M		
28	T		
29	W	Board of Faculties meets.	
30	Th	St. Andrew.	

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1922.

December XXXI.

1	F		
2	S		
3	**S**		49
4	M		
5	T	Education Committee meets.	
6	W		
7	Th	Finance Committee meets.	
8	F		
9	S		
10	**S**		50
11	M		
12	T		
13	W		
14	Th	Last day for entering for Supplementary Examinations in 1923.	
15	F	Senate meets.	
16	S		
17	**S**		51
18	M		
19	T		
20	W		
21	Th		
22	F		
23	S		
24	**S**		
25	M	Christmas Day.	52
26	T	Boxing Day.	
27	W		
28	Th		
29	F		
30	S		
31	**S**		

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1923.

January XXXI.

1	M	New Year's Day.	1
2	T		
3	W		
4	Th		
5	F		
6	S		
7	**S**		2
8	M		
9	T		
10	W		
11	Th		
12	F		
13	S		
14	**S**		3
15	M		
16	T		
17	W		
18	Th		
19	F		
20	S		
21	**S**		4
22	M		
23	T		
24	W		
25	Th		
26	F	Foundation Day.	
27	S		
28	**S**		
29	M		
30	T		
31	W		

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1923.

February XXVIII.

1	Th	Last day for lodging Applications for Exemptions from University Work in 1923.	5
2	F		
3	S		
4	**S**		6
5	M		
6	T		
7	W		
8	Th		
9	F		
10	S		
11	**S**		7
12	M		
13	T		
14	W		
15	Th		
16	F		
17	S		
18	**S**		8
19	M		
20	T		
21	W		
22	Th		
23	F		
24	S		
25	**S**		
26	M		
27	T	**First Examination Period.** [Matriculation Supplementary Examination. Annual Supplementary Examinations. Final Honours Examinations. Higher Degrees Examinations. Last day for Applications for Archibald Scholarship.]	
28	W		

CALENDAR OF THE UNIVERSITY OF QUEENSLAND.

1923.

March XXXI.

1	Th	St. David.	9
2	F		
3	S		
4	**S**		10
5	M		
6	T	Education Committee meets.	
7	W		
8	Th	Finance Committee meets.	
9	F		
10	S		
11	**S**		11
12	M	Last day for entering for Courses, 1923.	
13	T	**First Term begins.**	
14	W		
15	Th		
16	F	Senate meets. Election of Chancellor, Vice-Chancellor, and Committee.	
17	S	St. Patrick.	
18	**S**		12
19	M	Faculty of Arts meets.	
20	T		
21	W	Faculty of Science meets.	
22	Th		
23	F	Faculty of Engineering meets.	
24	S		
25	**S**		13
26	M		
27	T		
28	W	Board of Faculties meets.	
29	Th	Last day for Matriculating for 1923. Last day for Application for University Travelling Scholarship.	
30	F	Good Friday	
31	S	Easter Eve.	

OFFICERS OF THE UNIVERSITY.

CHANCELLOR:

The Honourable Sir Pope Alexander Cooper, K.C.M.G., M.A., Chief Justice of Queensland.

VICE-CHANCELLOR:

The Honourable A. J. Thynne, M.L.C.

THE SENATE OF THE UNIVERSITY:

The Honourable Robert Joseph Carroll, M.L.C.
The Honourable Sir Pope Alexander Cooper, K.C.M.G., C.J., M.A.
The Most Reverend St. Clair George Alfred Donaldson, M.A.
The Most Reverend James Duhig.
John Lockhart Gibson, M.D.
John Stanislaus Hanlon.
Professor Roger William Hercules Hawken, B.A., M.E., M. Inst. C.E.
John Brownlie Henderson, O.B.E., F.C.S., F.I.C.
The Honourable John Huxham, M.L.A.
The Honourable Thomas Llewellyn Jones, M.L.C.
Harry William Lee
William Field Lloyd.
Mr. Justice McCawley.
The Honourable Frank McDonnell, M.L.C.
The Reverend Ernest Northcroft Merrington, M.A.
Professor John Lundie Michie, M.A.
William Nathaniel Robertson, M.B., Ch.M.
Professor Bertram Dillon Steele, D.Sc., F.R.S., F.I.C.
John Douglas Story.
The Honourable Andrew Joseph Thynne, M.L.C.

STANDING COMMITTEES.

The Standing Committees are appointed at the first meeting of the Senate held after the first Tuesday in March in each year.

NOTE.—The Chancellor and Vice-Chancellor are *ex officio* members of all Standing Committees.

ADMINISTRATIVE COMMITTEE:

Chairman: Mr. Story.

Messrs. Carroll, Henderson, Huxham, Lloyd, McDonnell, and Professor Michie.

The Administrative Committee meets on the Wednesday in the week preceding the monthly meeting of the Senate.

BUILDING AND GROUNDS COMMITTEE:

Chairman: Mr. Robertson.

Archbishop Duhig, Dr. Lockhart Gibson, Professor Hawken, Messrs. Henderson, Huxham, and Lloyd.

EDUCATION COMMITTEE:

Chairman: The Vice-Chancellor.

The Education Committee consists of the several members of the Senate, with the President of the Board of Faculties and the Chairmen of the Faculties as associate members. It meets on the 10th day (Tuesday) before each ordinary meeting of the Senate.

FINANCE COMMITTEE:

Chairman: Mr. Story.

Messrs. Carroll, Hanlon, Jones, Lee, Merrington, McDonnell, and Robertson.

The Finance Committee meets on the Thursday in the week preceding the monthly meeting of the Senate.

LIBRARY COMMITTEE:

Chairman: The Vice-Chancellor.

Archbishop Donaldson, Archbishop Duhig, Professor Hawken, Messrs. Lee, Merrington, Professor Michie, and Professor Steele.

Associate Member: Professor Parnell, Chairman of Faculty of Science.

The Library Committee meets on the 10th day (Tuesday) before each ordinary meeting of the Senate.

UNIVERSITY EXAMINATIONS IN MUSIC COMMITTEE:

Chairman: The Vice-Chancellor.

Dr. Lockhart Gibson, Professor Hawken, Mr. Merrington, Professor Michie, and Professor Steele.

Associate Members: Mr. Sampson, Musical Adviser to the Senate; Mr. E. C. Barton; and Professor Priestley.

WORKERS' TUTORIAL CLASSES JOINT COMMITTEE:

University Representatives: Mr. T. L. Jones, Professor Mayo, Professor Michie, and Mr. B. H. Molesworth, M.A.

THE BOARD OF FACULTIES.

President: Professor Michie.

The Chancellor and Vice-Chancellor, Professors Priestley, Hawken, Mayo, Richards, Parnell, and Steele, and for special purposes Mr. Jones.

The Board of Faculties meets on the 3rd Wednesday before the Senate meeting in each month during term.

THE FACULTIES.

NOTE.—The Chancellor and Vice-Chancellor are members, *ex officio*, of each Faculty.

THE FACULTY OF ARTS:

Chairman of the Faculty: Professor Michie.

Professor Priestley, Messrs. Alcock, Castlehow, Professor Mayo, Messrs. Melbourne, Priest, Seymour, Stable, and Professor Steele.

The Faculty of Arts meets on the 2nd Monday before the Board of Faculties' meeting in each month during term.

THE FACULTY OF SCIENCE:

Chairman of the Faculty: Professor Parnell.

Mr. Bryan, Mr. Cayzer, Professors Hawken, Priestley, Richards, and Steele, Mr. Bagster, Mr. T. G. H. Jones, Mr. Lusby, Mr. Priest, and Mr. Rimmer.

Members of the Faculty of Science for purposes relating to Agricultural Education:—Messrs. A. H. Cory, A. E. J. C. K. Graham, C. Potts, H. C. Quodling.

The Faculty of Science meets on the Wednesday before the Board of Faculties' meeting in each month during term.

THE FACULTY OF ENGINEERING:

Chairman of the Faculty: Professor Hawken.

Professors Parnell, Priestley, Richards, Steele, Dr. Bagster, Dr. Boyd, and Messrs. Munro, Ross, and R. E. Sexton.

The Faculty of Engineering meets on the Friday before the Board of Faculties' meeting in each month during term.

THE FACULTY OF LAW:

Chairman of the Faculty: The Chancellor.

THE FACULTY OF MEDICINE:

Chairman of the Faculty: The Chancellor.

TEACHING STAFF.

PROFESSORS:

Biology: 1919, Thomas Harvey Johnston, M.A., D.Sc. (absent on leave).*

Chemistry: 1910, Bertram Dillon Steele, D.Sc., F.R.S., F.I.C.

Classics: 1910, John Lundie Michie, M.A.

Engineering: 1919, Roger William Hercules Hawken, B.A., M.E., M. Inst. C.E.

Geology and Mineralogy: 1919, Henry Caselli Richards, D.Sc.

Mathematics: 1910, Henry James Priestley, M.A.

Philosophy: 1919, George Elton Mayo, B.A. (absent on leave).

Physics: 1919, Thomas Parnell, M.A.

LECTURERS:

Biology: 1920, Albert Cayzer, B.Sc. (in charge during Professor Johnston's absence on leave).

Chemistry (Applied): 1915, Lancelot Salisbury Bagster, D.Sc.

Chemistry: Lecturer, 1921, Thomas Gilbert Henry Jones, B.Sc., A.I.C.

Classics: 1919, Stanley Castlehow, M.A.

English, French, and German: 1912, Jeremiah Joseph Stable, M.A., Lecturer in Charge.

Geology: 1920, Walter Heywood Bryan, M.Sc.

History and Economics: 1914, Henry Alcock, M.A. (Lecturer in Charge).

Economic and Colonial History: 1916, Alexander Clifford Vernon Melbourne, B.A.

History of Architecture and Building Construction (Part Time): 1921, A. H. Foster.

*Elected to the Chair of Zoology in the University of Adelaide.

Psychology and Education:
Mathematics: 1914, Herbert James Priest, B.A., B.Sc.
Mechanical and Electrical Engineering: 1919, Arthur Boyd, B.E., D.Sc., M.I.E.E., Assoc. M. Inst. C.E.
Philosophy and Logic:
Physics: 1912, Sydney Gordon Lusby, M.A.
Surveying (Part Time): 1919, Hugh Walker, B.E.
Mathematics (Evening): 1911, Kenneth ffoulkes Swanwick, B.A., LL.B.

DIRECTOR OF CORRESPONDENCE STUDIES:

1911, Thomas Edward Jones, B.A.

HONORARY LECTURERS:

Faculty of Engineering.

Norman Bell, Assoc. M. Inst. C.E.; E. A. Cullen, M. Inst. C.E.; W. J. Doak, Assoc. M. Inst. C.E.; W. M. Nelson; C. F. Pemberton; G. W. Thom, M.C.E.

SENIOR DEMONSTRATORS AND ASSISTANT LECTURERS:

Engineering—Assistant Lecturers: 1913, Andrew Ross Munro, A.M.I. Mech. E.; 1914, Cecil Napier Ross, M.Sc., B.M.E.
Chemistry: Edmund Arthur O'Connor, M.Sc.
Physics: 1921, Travis Rimmer, M.Sc.
Biology: 1920, Mavis Jean Walker, M.Sc. (during Prof. Johnston's absence on leave).

EXAMINERS:

Faculty of Arts.

The Professors and Lecturers in the Faculty. *For Honours in Philosophy:* [External] Francis Anderson, M.A., Challis Professor of Logic and Mental Philosophy in the University of Sydney.

Faculty of Science.

The Professors and Lecturers in the Faculty.

Faculty of Engineering.

The Professors and Lecturers in the Faculty.

WALTER AND ELIZA HALL BENEFACTION.

FELLOWSHIP.

In Economic Biology: Otto Werner Tiegs, M.Sc.

WALTER AND ELIZA HALL SCHOOL OF APPLIED CHEMISTRY:

Lecturer in Charge: Lancelot Salisbury Bagster, D.Sc., Lecturer in Applied Chemistry.

ADMINISTRATIVE STAFF.

REGISTRAR AND LIBRARIAN: Francis William Sutton Cumbrae-Stewart, B.A., B.C.L., Barrister-at-Law.

CHIEF CLERK AND ACCOUNTANT: Joseph Francis McCaffrey.

CLERKS: John Dougal Cramb; Mary Jane Martin.

TYPISTES: Isabel Hurwood, Ruth Wade Law, Vera Margaret Shaw, and Vida Dabbs.

Correspondence Study Department: Dorothy Mabel Jones and Thelma Atkin.

Library: Ellen Katherine McIver.

CHEMISTRY. STOCK ATTENDANT AND CLERK: Dorothy Leitch.

JANITOR: Walter Wyche.

HONORARY UNIVERSITY SOLICITOR: Edward Henry Macartney.

HONORARY ORGANIST: George Sampson, F.R.C.O.

LABORATORY STAFF.

LABORATORY MECHANIC AND DEMONSTRATOR: A. N. Falk.

LABORATORY MECHANICS—

Engineering: P. N. Humphreys.

Physics: Robert Gibb.

LABORATORY ASSISTANTS—

Applied Chemistry: Alfred Charles Braddy.

Biology: Clarence Illidge.

Chemistry: Charles Illidge.

Engineering: John M. Geary and Charles Roberts.

Physics: George Wright.

ENTRIES FOR COURSES.

Students who propose to attend Lectures or Laboratories during 1922 must present themselves at the University, in order to submit their choice of subjects to the Chairmen of the Faculties for approval during the hours following:—

FRIDAY, 10th March—2 p.m. to 4 p.m.
SATURDAY, 11th March—10 a.m. to noon.
MONDAY, 13th March—10 a.m. to 12 noon; 2 p.m. to 4 p.m.

Entries for the various Courses must be made not later than MONDAY, 13th March, between the hours of 10 a.m. and 4 p.m. Those who intend to proceed to Degrees must previously have complied with the provisions of the Statute relating to Matriculation.

Except under special circumstances, persons entering after the last-mentioned date are required to pay a late entrance fee of five shillings.

Fees.

No entry will be accepted until the prescribed fees have been paid. The following shall be the fees payable:—

	£	s.	d.
(*a*) Matriculation	1	1	0
(*b*) Admission *ad eundem gradum* and to graduation	3	3	0
(*c*) Admission *ad eundem statum*	1	1	0
(*d*) Lecture fees for single subjects, for each course of lectures, per term	2	2	0
(*e*) Laboratory fees for any single subject in the Faculty of Science—			
(i.) For a first year course—			
Per term	2	2	0
Per annum	5	5	0
(ii.) For a second year course—			
Per term	4	4	0
Per annum	10	10	0
(iii.) For a third year course—			
Per term	6	6	0
Per annum	15	15	0
(*f*) Composition fees for complete courses leading to a degree in the Faculty of Arts—			

	£	s.	d.
(i.) For any year, including no subjects involving laboratory work	12	12	0
(ii.) For any year, including one subject involving laboratory work	15	15	0
(iii.) For any year, including two subjects involving laboratory work	18	18	0
(*g*) Composition fees for complete courses of study leading to a degree in the Faculty of Science, for all lectures and laboratory courses for any year	21	0	0
(*h*) Composition fees for complete courses of study leading to a degree in the Faculty of Engineering, for all lectures and laboratory courses for any year	22	1	0

(*i*) Evening and external students who avail themselves of the permission to pass in a smaller than the prescribed number of subjects in any year shall pay a corresponding proportion of the composition fee for that year.

(*j*) Fees for single subjects in the Faculty of Engineering:—

Subject.	Year.	Fee per Term.
Descriptive Geometry and Drawing ..	1	£2 2s.
Applied Mechanics	2	£3 3s., including laboratory work.
Heat Engines I.	2	£3 3s., " " "
Civil Engineering I.	3	£2 2s.
Testing Materials	3	£2 2s.
Surveying I.	3	£3 3s., including field work.
Hydraulics	3	£3 3s., including laboratory work.
Engineering Design	2	£3 3s.
Engineering Design	3	£3 3s.
Surveying II.	4	£4 4s., including field work.
Civil Engineering II.	4	£6 6s., including Electrical Engineering and laboratory work.
Engineering Design	4	£3 3s.
Engineering Chemistry	3	£2 2s., including laboratory work.
Applied Electricity	3	£3 3s., " " "
Heat Engines II.	3	£2 2s., " " "
Mechanical and Electrical Engineering	4	£6 6s., complete course only.
Assaying	4	£4 4s.
Metallurgy	4	£4 4s.
Mining Engineering	4	£4 4s., including Electrical Engineering and laboratory work.
Engineering Design	4	£3 3s.

(*k*) Examinations—

	£	*s.*	*d.*
(i.) Annual examinations—			
Degree course	1	1	0
For non-matriculated students who have not attended lectures in subjects of examinations—			
For each subject	2	2	0
(ii.) Supplementary examination—			
For maximum of two subjects	2	2	0
For each subject over two in addition ..	1	1	0
(iii.) Supplementary Matriculation Examination—			
For maximum of two subjects	2	0	0
For each subject over two in addition ..	0	10	0
(iv.) Degree of Master, payable on entry for, or on claim of exemption from, examination (this includes admission to the degree) ..	3	3	0
If a candidate sits again in another year, a further fee of	1	1	0

Laboratory apparatus and microscopes.

Students are provided with the laboratory apparatus required by them upon payment of £2 2s. during the first year; £2 2s. during the second year; and £2 2s. during the third year.

Deductions are made on account of all breakages and dirty material, and the balance is refunded to the student at the end of the third year, or when he leaves the University or ceases work in the laboratory.

Students may provide their own microscopes, if of an approved pattern, but a certain number are provided by the University, which are available for students upon payment of £1 1s. per year.

In the case of non-matriculated students taking an approved course of study in any Faculty, if the fees chargeable for the subjects of the course exceed the composition fee, the ordinary composition fee will be charged.

For original research undertaken on the recommendation and under the direction of the Professor or Lecturer in Charge, the laboratories of the University may be opened gratis to Graduates

of the University, except as regards such payment for material and special attendances as may be considered necessary by the Professor or Lecturer. Application to be made to the Registrar and approved by the Chancellor.

PAYMENT OF FEES.

All Fees are to be paid to the credit of the University Account at the Commonwealth Bank (Savings Bank Department), George street, Brisbane, or at any branch or agency of the Commonwealth Bank. Special deposit slips in triplicate may be obtained either at the Savings Bank or the University. One part of the deposit slip will be retained by the person paying in as his receipt; the second part must be forwarded to the Registrar; the third part will be retained by the Bank in the usual way.

Care must be exercised in filling in the deposit slip so that all necessary particulars may be clearly and distinctly stated.

LIBRARY.

RULES.

1. The Library of the University of Queensland is divided into—

(*a*) General and Arts Library;

(*b*) Departmental (Science) Libraries.

The latter will, as accommodation is provided, be stored in the buildings of the Scientific Departments.

2. The Libraries are for the use of all Members of the University.

3. The General Library will be open during Term—

On Saturdays, 10 a.m. to 12.30 p.m.

Other week days, 9 a.m. to 5 p.m., 7 to 9 p.m.

Departmental Libraries will be open at the same time as the above so far as is compatible with the working of the Department and with the provision of reading-rooms in each Department.

17-4-12.

3A. The hours at which books may be borrowed shall be from 12 noon to 1 p.m., and from 2.30 p.m. to 3.30 p.m. Evening Students may apply to members of the Staff in Evening Lectures for books which they desire to borrow.

In Vacation the Libraries shall be open as required.

4. No book may be taken from the General or Departmental Libraries except as set forth under the Rules for borrowing.

Borrowing.

9-7-13; 13-7-17.

5. (*a*) Books may be borrowed by Members of the Senate, Professors, and Lecturers, Heads and Members of

the Staffs of Recognised Colleges and of the Teachers' Training College who are Members of the University, Superior Officers of the University, and by Undergraduates attending the regular courses of the University without charge or subscription, and by Graduates who are proceeding to another degree or who are engaged in approved research work on payment of a subscription of one guinea a year. External Students shall not have the right to borrow books from the Library.

(*b*) The following are authorized to give out books to borrowers:—

For the General Library, THE LIBRARIAN AND ASSISTANT.

For the Departmental Books, THE PROFESSOR OR LECTURER IN CHARGE OF THE DEPARTMENT OR HIS AUTHORISED DEPUTY.

(*c*) Borrowers shall fill in and sign a borrowing slip of the form attached for each book required, and shall hand this to the proper authority specified in Rule 5 (*b*), who will countersign the slip before he gives out the book, and retain it as a receipt, sending the countersign to the Main Library.

(*d*) When books are returned, the borrowing slip shall be cancelled and returned to the Librarian.

(*e*) No books may be kept for more than the time noted on the slip, but, if not required by another Student, may be taken out again by the same borrower on fresh application as above.

(*f*) Borrowers will be held responsible for loss of books or damage.

(*g*) If a book is already out when required by a Student, the signing of a borrowing slip shall establish for

that Student a prior claim for that book so soon as it is returned.

(*h*) Professors and Lecturers may have out not more than eight volumes at a time; other readers not more than three volumes.

(*i*) At the discretion of the Librarian or of Heads of Departments, certain books and periodicals may be noted as " Not to be borrowed."

(*j*) All books shall be returned to the Library on or before the first day of the Annual Examinations, and at other times upon a week's notice being given by the Librarian.

(*k*) Long vacation—

(i.) During long vacation Students resident in Brisbane and suburbs may borrow books in the same way as above described;

(ii.) Students resident at a distance may take six volumes away with them on complying with Rule 5 (*c*), and must return them carefully packed by post or passenger train at their own expense within twenty-eight days, and may receive another parcel of six volumes from the University at their own expense;

(iii.) In case the same book is required by more than one Student, the Senior Member of the University shall have the prior right;

(iv.) All books lent out at any time during the long vacation may be kept by the borrower not later than the first day of the Supplementary Examinations.

14-5-13.

(*l*)—

(i.) No volume shall be kept for more than seven days unless special permission is given by the Librarian at the time of borrowing;

(ii.) Books for which an extension of time has been granted may, notwithstanding such permission, be recalled at any time after seven days, and then must be returned at once;

(iii.) For any volume kept longer than the time allowed, a fine of 1s. a week or portion of a week shall be incurred by the borrower;

(iv.) A list of fines incurred shall be posted in the Library, and notice thereof sent to the person incurring the fine and to the Registrar;

(v.) Fines must be paid to the Registrar within seven days of the date of posting, and, until they are paid, the offender will not be allowed to make use of the Library;

(vi.) When a notice is issued for a general return of books to the Library, the detention of books named in such notice shall render the offender liable to fines at double the rate mentioned in (iii.).

Any infringement of these Rules shall be reported to the Library Committee, who shall deal with the offender at their discretion.

GENERAL RULES.

Passed by the Senate on 11th December, 1912.

I.—Academic Year.

1. The Academic Year shall consist of three Terms and two Examination Periods, exclusive of the period occupied by Public and other Examinations not mentioned hereunder.

II.—Terms.

8-9-15.

2. The Terms shall commence on the Eleventh, Twenty-second, and Thirty-fourth Tuesdays in the year respectively, and each term shall end on the Tenth Saturday after its commencement.

III.—Examination Periods.

3. The first Examination Period shall commence on the Ninth Tuesday in the year and shall continue for two weeks. The second Examination Period shall commence on the Forty-fifth Tuesday and shall extend over a period of not more than three weeks.

4. During the first Examination Period the following Examinations shall be held:—

(*a*) The Matriculation Examination.
(*b*) The Supplementary Annual Examination.
(*c*) The Examination for Graduation with Honours.
(*d*) The Examination for Higher Degrees.

5. During the second Examination Period the following Examinations shall be held:—

(*a*) The Annual Examination for Degree Courses.
(*b*) The Final Examination for Graduation for the Pass Degree.

IV.—Supplementary Examination.

6. Candidates who have failed in not more than two subjects at the Annual Examinations may present themselves for a Supplementary Examination in the March following.

7. Candidates who have failed in more than two subjects in the Annual Examinations cannot present themselves at the Supplementary Examination without the express permission of the Faculty.

V.—Examination Results.

8. A list of Candidates who have passed in any subject of Examination shall be drawn up by the Examiner or Examiners. Such list, attested by the signatures of the Examiner or Examiners, shall be forwarded to the Registrar and posted up by him.

9. All Examiners' Returns shall be forwarded to the Registrar and retained in his custody. All these returns shall be by him entered in the University books, and from them he shall compile and enter lists of successful Candidates. The names of Candidates who have completed their respective years, together with the Class Lists, shall be published without delay after the last necessary return has been received by the Registrar, and shall be laid before the Senate at its next meeting.

VI.—Class Lists.

20-8-13.

10. In the Faculty of Arts and Engineering a pass in each subject may be graded as "pass" and "pass with merit," except that in the Faculty of Arts a "pass with merit" will not be given to candidates for Honours in the final year of their course. In the Faculty of Science a "pass with merit" may be given in the first two years only of the course.

VII.—Time Tables.

11. The Time Tables of Lectures in the various Faculties shall be in the hands of the Registrar in each year not later than the Saturday immediately preceding the commencement of the First Term.

12. The Time Table of Examinations shall be in the hands of the Registrar not less than three weeks before the commencement of either Examination Period.

VIII.—Entries.

13. All entries, whether for Lectures or Examinations, shall be made on forms provided for the purpose.

14. Students must enter for courses in the various Faculties not later than the Monday* immediately preceding the first day of the First Term.

15. Except in special cases, candidates entering after this date shall be required to pay a late entrance fee of 5s.

14-12-17.

16. Candidates for the Annual Examination in November, or for the Honours Examination in March, or for Examination for admission to higher degrees, shall lodge their entries with the Registrar on or before the 30th September preceding such Examination.

Candidates desiring to proceed to higher degrees, who are qualified to do so without further examination, shall lodge with the Registrar on or before the 30th September preceding an application for exemption from further examination in connection with such higher degree.

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*Note.—This rule is mandatory, and will be strictly enforced. The Professors will be in attendance at the University previous to the commencement of Term to facilitate compliance with the Rules.

Candidates desiring to present theses for higher degrees must notify the Registrar on or before the 30th September preceding of their intention of presenting such theses in the following March.

Candidates who fail at the Annual Examination in November, and who desire to sit for a Supplementary Examination in March, shall lodge with the Registrar not later than the 15th December preceding their entries for such Supplementary Examination, together with the duplicate deposit slip for the prescribed Supplementary Examination fee of £2 2s.

17. Unless otherwise provided, Candidates for examination for any special prize or scholarship shall lodge their entries for the same with the Registrar not less than fourteen days before the commencement of the examination for that prize or scholarship.

18. No entry shall be accepted until the prescribed fees have been paid.

IX.—Fees.

(*a*) *Lecture and Laboratory Work.*

19. All fees for lectures shall be paid in advance, either annually in one sum or in three equal instalments. Annual payments must be made not later than the Tuesday preceding the beginning of the first term. Final instalments must be paid not later than the Tuesday preceding the beginning of each Term.

20. No student shall be entitled to have his name enrolled on the roll of any class in any subject until he has paid the prescribed fees for that subject.

(*b*) *Apparatus.*

21. Students are not required to provide their own apparatus for the laboratory courses. Apparatus will be provided by each Department to the students working in that Department.

22. Students attending the laboratories must pay a deposit of £2 2s. at the beginning of each of the first three years of their course.

23. On the completion of his work in any Department each student will be charged with all breakages of apparatus and apparatus returned by him insufficiently cleaned. The sums thus due to each Department will be deducted from the deposit, and the balance returned to the student on the completion of his laboratory work.

24. The amount due to each Department shall be certified to by the Head of that Department.

25. A limited number of microscopes are provided by the Departments of Geology and Biology, which will be lent to students upon payment of £1 1s. per annum.

X.—Courses of Lectures.

26. Unless otherwise resolved by the Faculty concerned, a course of lectures in any subject shall consist of two lectures per week during the three Terms of the Academic Year.

XI.—General.

20-8-13.

27. Nothing in these Rules contained shall be construed to prevent any Faculty from holding any examination on any subject or subjects at such time as such Faculty may think fit.

MATRICULATION.

STATUTE RELATING TO MATRICULATION.

1. Subject to the provisions concerning admission *ad eundem statum* and to the power of the Senate to grant exemption in any individual case, every person not being less than sixteen years of age, who has fulfilled the prescribed conditions for Matriculation in any of the Faculties within the University, and who, in the presence of the Registrar or other person appointed by the Senate for the purpose, signs his name in the Matriculation Book, either personally or by his agent duly authorised in writing, and makes the declaration hereinafter set forth, shall become an undergraduate member of the University.

The declaration shall be in the following form:—

"I hereby solemnly promise that I will obey the Statutes of the University of Queensland so far as they may apply to me, and that I will submit respectfully to the Constituted Authorities of the University."

2. Undergraduates who have been admitted to the studies of any Faculty are deemed to be Students of that Faculty.

RULES.

16-12-14.

1. In order to qualify for matriculation, candidates must pass in a selection of subjects at the Public Examinations held annually by the University. The ordinary examinations will be held in November-December, and there will also be a Supplementary Matriculation Examination in March.

2. Candidates may pass their Matriculation Examination in two sittings,* provided that they secure or have secured a pass in at least four subjects at some one Senior Public Examination.

* The Examination in November and the Supplementary Examination in March are regarded as constituting one Sitting under this Rule.

3. The Examination in March will be used only for the completion of Matriculation requirements.

4. Passes in Public Examinations of the Universities of Adelaide, Melbourne, and Sydney will receive the same credit as those gained at corresponding examinations of the University of Queensland.

5. Candidates may qualify for matriculation in the Scholarship Examination provided that they show proficiency in the subjects required for matriculation.*

6. Notwithstanding anything to the contrary herein contained, candidates who have reached the age of 25 years may, if they have gained the Senior certificate, complete the subjects required for matriculation in the Faculties of Arts and Science without any limit as to number of sittings.

7. The requirements of the several Faculties are as follows:—

Faculty of Arts.

1. The Subjects of the Examination shall be:—

(i.) *Compulsory*—

(*a*) English;
(*b*) Latin or Greek;
(*c*) Mathematics A.

(ii.) *Optional*—

(*a*) Latin or Greek (that one not taken as a compulsory subject);
(*b*) French;
(*c*) German;
(*d*) History (Ancient);
(*e*) History (Modern);

* Candidates are warned that it will naturally be more difficult to secure a pass for matriculation purposes by the use of the Scholarship Examination than by the use of the Senior Examination.

(*f*) Logic;
(*g*) Mathematics B;
(*h*) Chemistry or Physics or Geology or Biology or Geography.

2. Every candidate shall pass in at least four Senior subjects, which must include English and one other subject from the compulsory group: provided that if the remaining subject of the compulsory group is not taken at Senior Standard, it must be passed at an Approved Intermediate Standard.*

3. The v of the subjects required for Matriculation must be passed in not more than two Examinations; but an Examination at which a candidate fails to pass shall not be deemed to be an Examination within the meaning of this Rule.

4. Any candidate who has matriculated in the Faculties of Science or Engineering shall be deemed to have matriculated in the Faculty of Arts if he has passed, or, on passing, in Latin or Greek at Intermediate Standard.

Faculty of Science.

1. The Subjects of the Examination shall be:—

(i.) *Compulsory*—
(*a*) English;
(*b*) Mathematics A;
(*c*) One Science subject (Chemistry, Physics, Geology, or Biology);
(*d*) French or German.

(ii.) *Optional*—
(*a*) Latin;
(*b*) Greek;
(*c*) French or German (that one not taken as a compulsory subject);

* For Approved Intermediate Standard in Latin and Mathematics, see Manual of Public Examinations, 1921-22.

(*d*) Modern History;
(*e*) Ancient History;
(*f*) Logic;
(*g*) Mathematics B;
(*h*) Chemistry;
(*i*) Physics;
(*j*) Geology;
(*k*) Biology;
(*l*) Geography.

2. Every candidate shall pass in at least four Senior subjects, which must include English, Mathematics A, and one Science subject: provided that either French or German, if not included in the Senior subjects, must be passed at an Approved Standard.

NOTE.—The Junior Public Examination Standard in French and German has been adopted as the Approved Standard under this rule.

3. The whole of the subjects for Matriculation must be passed in not more than two Examinations; but an Examination at which a candidate fails to pass shall not be deemed to be an Examination within the meaning of this Rule.

4. Any candidate who has matriculated in the Faculty of Arts shall be deemed to have matriculated in the Faculty of Science on passing in all the prescribed subjects or on completing his first year of Arts. Any candidate who has matriculated in the Faculty of Engineering shall be deemed to have matriculated in the Faculty of Science.

FACULTY OF ENGINEERING.

1. The Subjects of the Examination shall be:—

(i.) *Compulsory*—
(*a*) English;
(*b*) Geography;

(*c*) Mathematics, as required for Engineering;*
(*d*) Physics.

(ii.) *Optional*—
(*a*) Latin;
(*b*) Greek;
(*c*) French;
(*d*) German.

2. Every candidate shall pass in the compulsory subjects at Senior standard, and in one optional subject at an Approved Standard.†

3. The whole of the subjects required for Matriculation must be passed at not more than two Examinations; but an Examination at which a candidate fails to pass shall not be deemed to be an Examination within the meaning of this Rule.

4. Any candidate in the Faculty of Arts who has passed the first year of Arts shall be deemed to have matriculated in the Faculty of Engineering if he has passed in Pure Mathematics, Part I.

5. Any candidate in the Faculty of Science who has passed the first year of Science shall be deemed to have matriculated in the Faculty of Engineering if he has passed in Applied Mathematics, Part I.

NOTE.—When passed at one sitting, the Examination forms a qualification recognised by the Institution of Civil Engineers as exempting from its Preliminary Examination for those seeking admission to Studentship of the Institution.

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*That is, Mathematics A and Mathematics B, excluding Mechanics.

†For Latin, Greek, French, and German, see Manual of Public Examinations, 1921-22.

ADULT MATRICULATION.

1. Candidates who have attained the age of 25 years may be admitted to Matriculation in the Faculties of Arts and of Science on passing a special examination. Such candidates may, if they so elect, matriculate under the ordinary regulations.

2. This examination may be passed at one or more sittings.

3. Candidates shall receive credit towards this special matriculation qualification for passes—

(*a*) At the Senior Public Examination; or

(*b*) At a standard equivalent to that of the Adult Matriculation examination;

where such correspond, provided that credit be not necessarily given for such passes gained before the candidate has attained the age of 25 years. English and one other subject to be chosen from the following list:—Modern History, Ancient History, Geography, Logic, shall be accepted as equivalent to the Essay Paper if passed at the Senior or an approved standard.

4. The requirements for the several Faculties are as follows:—

FACULTY OF ARTS.

(*a*) Essay Paper;

(*b*) Language other than English (at approved standard);

(*c*) Mathematics A or Science subject (at approved standard).

Candidates will be asked to write at least two, and not more than three, Essays on topics arranged under the

following five divisions, not more than one topic to be selected from any one division:—

(1) History (General);
(2) English Literature;
(3) Economics;
(4) Arts and Music; and
(5) Current Topics.

Candidates will be expected to show both knowledge and power of expression.

In (*b*) and (*c*) the standard of proficiency will be such as may be decided on by the Faculty as the minimum required to fit a student for first year's work.

Candidates are advised that a knowledge of Latin is desirable for Pass courses in Arts, especially for courses in History and Modern Languages, and essential for Honours courses in these branches.

FACULTY OF SCIENCE.

(*a*) Essay Paper (as for Faculty of Arts);
(*b*) Mathematics (at approved standard);
(*c*) Science subject (at approved standard);
(*d*) Translation into English of simple passages of French or German text-books on the Science subject selected.

In (*b*) and (*c*) the Senior papers will be used. The standard of proficiency will be such as may be decided on by the Faculty as the minimum required to fit a student for first year work.

GENERAL NOTE.—The Essay Paper (Arts and Science) and the Translation paper (Science) will be set only in the March Examination period.

GRADUATION IN THE FACULTY OF ARTS.

DEGREE OF BACHELOR OF ARTS.

STATUTE RELATING TO THE DEGREE OF BACHELOR OF ARTS.

1. Candidates for the Degree of Bachelor of Arts shall be matriculated students of the Faculty of Arts. They shall attend lectures and pass annual examinations in Subjects comprised in a course of study extending over not less than three completed academical years. No candidate may present himself for examination in any year until he has satisfied the requirements of the preceding year or years.

2. Candidates for the Degree of Bachelor of Arts who are able to attend Evening Classes only may be permitted to extend their course of study over a period of five years.

3. Except in such cases as the Senate may otherwise determine, a statutory declaration by a candidate to the effect that he is unable to attend lectures shall be accepted as sufficient evidence to claim for him exemption from attendance at lectures. Such candidates may be permitted to extend their course of study over a period of five years.

RULES.

(I.)—BACHELOR OF ARTS.—PASS DEGREE.

Scheme of Study.

1. Subjects selected from the following Groups shall be studied by candidates for the Degree; and the study of the selected Subjects shall extend over a period of three completed academical years:—

(*A*) Latin (Part I., Part II.); Greek (Part I., Part II.).

(*B*) English (Part I., Part II.); French (Part I., Part II.); German (Part I., Part II.).

(*C*) British History (Part I., Part II.); Constitutional History and Political Science (Part I., Part II.); Ancient History; Economics.

(*D*) Logic and Psychology (Part I., Part II.); Ethics and Metaphysics; Education.

Note.—Education may be taken in place of Logic and Psychology II. as second part of Logic and Psychology I.

(*E*) Pure Mathematics (Part I., Part II.); Applied Mathematics (Part I., Part II.).

(*F*) Biology (Part I.); Chemistry (Part I.); Geology and Mineralogy (Part I.); Physics (Part I.).

Candidates selecting French or German as Subjects for their course must pass a compulsory dictation and composition test before commencing the study of these Subjects unless they have passed in the Subject or Subjects selected at the Senior Public Examination.

Candidates selecting Latin or Greek or Mathematics, Pure and Applied, as Subjects of their Course shall satisfy the Professor or Lecturer in Charge that they are able to proceed with the work.

2. A full year's work in any subject shall constitute a Part thereof. A Part of any Subject, or a Subject consisting of one Part only, shall represent one unit of study for the Degree. In certain specified Subjects the work of a Part may be distributed over two consecutive years.

3. The Subjects set out in the foregoing list shall be studied in one or in two Parts. No candidate shall proceed

to the study of the second Part of any Subject until he has passed in the first Part of that Subject.

4. A candidate shall be held to have passed in any Subject or Part of a Subject when he has attended the course of lectures, performed the laboratory or field work, and passed the examination prescribed for that Subject or Part of a Subject.

5. Candidates shall pass in at least six Subjects, of which three at least must be studied in two Parts for two years, thereby securing nine units of credit for the Degree, provided that—

(*a*) Not less than one Subject, or if English be chosen not less than two Subjects, be taken from Groups A and B together;

(*b*) Not less than one Subject be taken from Group C;

(*c*) Not less than one Subject be taken from Group D;

(*d*) Not less than one Subject be taken from Groups E and F together;

(*e*) Not more than two Subjects be taken from Group F.

The Subjects may be selected by the candidate; but the selection must be approved by the chairman of the Faculty.

6. No candidate in the second or third year may receive credit for the year except in the three Subjects that have been selected and approved as his Subjects towards the Degree for the year.

7. The following Subjects or Parts of Subjects may not be taken except in the first or second year of the Course:—

English I., Latin I., Greek I., French I., German I., Constitutional History and Political Science I., Pure Mathematics I., Applied Mathematics I., Biology I., Geology I., Physics I., and Chemistry I.

8. Education may not be taken till a Pass has been secured in Logic and Psychology, Part I.

Economics may not be taken till a Pass has been secured in British History, Part I., or in Constitutional History and Political Science, Part I.

Ethics and Metaphysics may not be taken in the first year.

9. Candidates during the first year of their Course shall Pass in at least three Subjects selected and approved as aforesaid; but not more than one Subject may be selected from Group F.

Candidates who have fulfilled the foregoing conditions shall thereby complete their first year.

10. Candidates who have completed their first year may proceed to the second year of thir Course. Such candidates shall pass in at least three Subjects selected and approved as aforesaid, thereby completing their second year.

11. Candidates who have completed their second year may proceed to the third year of their Course. Such candidate shall pass in at least three Subjects selected and approved as aforesaid, thereby completing their third year.

12. Candidates who have completed their third year may be admitted to the Degree of Bachelor of Arts.

13. If a candidate has failed to complete any year of his course, the Faculty in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the Subjects or Parts of Subjects which have been studied by the candidate in that year.

Evening and External Students.

14. Notwithstanding anything to the contrary contained herein, candidates for the Degree of Bachelor of Arts who are able to attend evening classes only may, in any year of their course, obtain credit for not less than two Subjects or Parts of Subjects in which they have passed.

15. External students—that is to say, candidates for the Degree of Bachelor of Arts who have been exempted from attendance at lectures for all the Subjects of any year —may be allowed credit in that year for not less than two Subjects or Parts of Subjects in which they have passed.

16. Candidates who, as evening or external students, have obtained eight units of credit may be admitted to the Degree of Bachelor of Arts on passing in the one Subject or Part of a Subject necessary to complete the nine units of credit required for the Degree.

The following Courses are suggested for the guidance of Students:—

(I.) Course with a direction towards Language and History—

First Year—Language I.; Language I.; Pure Mathematics or Science I.

Second Year—Language II.; Language II.; British History I. or Constitutional History and Political Science I.

Third Year—Logic and Psychology I.; Economics; British History II. or Constitutional History and Political Science II.

(II.) Course with a direction towards Language and Philosophy—

First Year—Language I.; Language I.; Pure Mathematics or Science I.

Second Year—Language II.; Language II.; Logic and Psychology I.

Third Year—British History I.; Economics; Ethics and Metaphysics, or Logic and Psychology II.

Notes on Courses I. and II.—

(1) If English is taken as a Subject, Courses should be arranged so that English I. is taken in the Second Year by transferring in Course I. Logic and Psychology I. to First Year, and in Course II. British History I. to First Year.

(2) The following Language Groups are recommended:—

English and German.
Latin and French.
Latin and Greek.

(III.) Course with a direction mainly towards History—

First Year—Language I.; Logic and Psychology I.; Pure Mathematics or Science I.

Second Year—British History I.; Constitutional History and Political Science I.; Language II. or Logic and Psychology II. or Pure Mathematics II.

Third Year—British History II.; Constitutional History and Political Science II.; Economics.

Note.—If only one language is taken in this or in any other Course, it must be other than English.

(IV.) Course with a direction mainly towards Philosophy—

First Year—Logic and Psychology I.; Language I.; Pure Mathematics I. or Science I.

Second Year—Logic and Psychology II.; Language II.; Constitutional History and Political Science I.

Third Year—Ethics and Metaphysics; Economics; Constitutional History and Political Science II.

(V.) Course with a direction to Mathematics and Science with Philosophy—

First Year—Pure Mathematics I.; Language I.; Physics I.

Second Year—Pure Mathematics II.; Applied Mathematics I.; Logic and Psychology I.

Third Year—British History I.; Applied Mathematics II.; Logic and Psychology II.

General Note.—Education may be taken as a second part of Logic and Psychology I., or as a single subject of Group D—Philosophy Group; but in no case till a Pass has been secured in Logic and Psychology I.

(II.)—BACHELOR OF ARTS WITH HONOURS.

1. The Degree of Bachelor of Arts with Honours may be taken in any of the following Groups:—

(*A*) Classics;

(*B*) Modern Languages and Literature;

NOTE.—Candidates for Honours in this Group must select one of the three following Groups:—(*a*) English-French; (*b*) English-German; (*c*) French-German.

(*C*) History and Economic Science;

(*D*) Mental and Moral Philosophy;

(*E*) Mathematics.

18-9-12.

2. Every candidate shall pass in at least two Subjects outside his Honours Group. Candidates shall study and pass either in one Subject for one year, and one Subject in two Parts for two years, or in three Subjects, two of which must be cognate, for one year each, according as is prescribed in Rule 4 for each Group severally. Students shall

in each year submit their selection of Subjects for that year to the Chairman of the Faculty, as is prescribed in Rule 6 for the Pass Degree.

3. The examination in the Subjects comprised in the candidate's Honours Group shall be on a higher standard than that required for the Pass Degree. In his other Subjects the standard shall be that required for the Pass Degree.

4. In the choice of Subjects outside the Honours Group, the following restrictions are imposed:—

(*A*) *Classics.*—Logic and Psychology, Ethics and Metaphysics, and one other Subject.

NOTE.—Ancient History is not regarded as an outside Subject.

18-9-12. (*B*) *Modern Languages and Literature.*—Latin or Greek, or a Subject from Group B, not included in the Honours Group, and one Subject from Group C or Group D. The Subject from Group B shall not be studied for more than one year.

(*C*) *History and Economic Science.*—Ethics and Metaphysics, and one language other than English.

(*D*) *Mental and Moral Philosophy.*—Economics, and one language other than English.

(*E*) *Mathematics.*—Any two Subjects selected from Groups A, B, C, D.

5. During the first two years of his course each candidate shall pass the annual examination as prescribed for the Pass Degree.

6. During the third year each candidate shall do such work and attend such lectures in the Subjects of his Honours Group as is prescribed in each case.

7. Any candidate may present himself for his Honours Examination at any time not less than one nor more than

two and a-half years after the completion of the second year of his course; but the candidate, before presenting himself for the Honours Examination, shall have attended, and done the work of, at least, five full courses of lectures in the Subjects of his Honours Group, and shall have passed in Subjects outside his Group as prescribed in Rules 2 and 3 above.

11-12-12.

8. Any candidate who has obtained Honours in any one Group may, on attending and doing the work of two full courses of lectures in the Subjects of a second Honours Group, present himself for examination in such second Honours Group in the next succeeding year.

9. A candidate who has graduated previous to taking his Honours Examination may have the details of his Honours entered on his Degree Certificate.

10. In each Group there shall be three Grades of Honours, to be denominated respectively the First, Second, and Third Class. The names in each Class shall be published in alphabetical order.

11. A candidate who has failed to obtain Honours may, at the discretion of the Faculty, be recommended for the Pass Degree.

12. Notwithstanding anything to the contrary contained herein, candidates who are unable to attend lectures during the day may present themselves for their Honours Examination at any time not less than one and not more than three and a-half years after the completion of the second year of their course.

STATUTE RELATING TO THE DEGREE OF MASTER OF ARTS.

1. The Degree of Master of Arts may be taken in any one or more of the following groups:—

(*a*) Classics;

(*b*) Modern Languages and Literature;
(*c*) History and Economic Science;
(*d*) Mathematics;
(*e*) Mental and Moral Philosophy.

2. Candidates shall be Bachelors of Arts of at least two years' standing.

3. Candidates shall present themselves for examination, and shall submit a thesis in such group or groups as they may select. The subject of the thesis may be chosen by the candidate, but must be approved by the Faculty.

Except that—

4. Candidates who have obtained the Degree of Bachelor of Arts with First or Second Class Honours in one or more groups may, in the corresponding group or groups for the Master of Arts Degree, obtain such degree without further examination solely on submitting a thesis of sufficient merit. Candidates may be required to submit to oral examination on the subject of their thesis.

5. The candidate shall consult the Chairman of the Faculty as to the choice of subjects for his thesis at least six months before the date of examination for the degree.

15-5-14.

RULES.

1. The examination in each group shall be of the same scope as that for the Final Honours Examination for the Bachelor of Arts Degree in that group. A standard equal to that required for Second Class Honours will be expected from candidates.

14-12-17.

2. Candidates must enter for or claim exemption from the examination as prescribed in the General Rules, and pay the prescribed fee.

3. Candidates who fail in the examination may sit again for examination in another year upon complying with the General Rules and paying the prescribed fee.

STATUTE RELATING TO THE DIPLOMA FOR JOURNALISM.

1. The Senate may, in its discretion, admit as a candidate for the Diploma for Journalism any person of good fame and character:—

(*a*) Who is a matriculated student of the Faculty of Arts; or

(*b*) Who has had at least three years' practical experience of Journalism and produces evidence thereof satisfactory to the Senate.

They shall attend lectures, practise laboratory work, and pass examinations comprised in a course of study extended over at least two academic years. Except in such cases as the Senate may otherwise determine, a statutory declaration by a candidate to the effect that he is unable to attend lectures shall be accepted as sufficient evidence to claim for him exemption from attendance at lectures.

2. The course of study shall comprise four single subjects selected from the subjects to be studied for the Bachelor of Arts Pass Degree, in accordance with such rules as may from time to time be made by the Senate.

3. No candidate shall obtain the Diploma unless he has presented evidence that he has had at least three years' practical experience of Journalism.

4. Candidates who have fulfilled the foregoing conditions shall thereby be deemed to have qualified for the Diploma for Journalism.

5. Candidates who have obtained the Diploma for Journalism may qualify for matriculation in the Faculty of Arts if they have passed, or upon passing, in—

(*a*) A language other than English; and

(*b*) Mathematics, or a Science subject,

in accordance with the rules relating to Adult Matriculation.

6. Upon matriculation in the Faculty of Arts, candidates shall, subject to such rules as may from time to time be passed by the Senate, receive credit towards the Degree of Bachelor of Arts for the subjects in which they have passed in the Diploma Course.

RULES.

1. Unless otherwise stated, the Rules and Regulations of the Faculty of Arts shall apply to candidates for the Diploma for Journalism.

2. The subjects to be studied by candidates for the Diploma shall be—

(1) English, Part I.

(2) British History, Part I.
or an equivalent amount of Modern History being a half course in British History, Part I., including the Colonial and Economic sub-courses, and a half course in British History, Part II., including the later British History and 19th Century general sub-courses.

(3) Economics (including Economic History).

(4) Any first year subject not above mentioned, or any of the following second year subjects:—
English, Part II.; British History, Part II. (where British History, Part I., has already been passed), *or* (where half courses have already been taken) the remaining portions of British History, Parts I. and II.; Constitutional History and Political Science, Part II.; Education.

They shall be studied in the order above set out and not more than two of them shall be attempted in any one year.

3. Candidates who have obtained the Diploma for Journalism and have matriculated in the Faculty of Arts shall be entitled to receive credit for such subjects as they have passed in the Diploma Course, subject to the following provisions:—

(*a*) A pass in a half course in British History, Part I., combined with a pass in a half course in British History, Part II., shall not be deemed to be a pass in a single subject; but a pass in the remaining half course in British History, Part I., must be obtained before credit will be given for a pass in British History, Part II. Credit will not be given for a pass in British History, Part II., unless passes have been obtained in all the four half-courses.

(*b*) Credit for a pass in Education will not be given until the candidate has passed in Logic and Psychology, Part I.

(*c*) Credit for a pass in Constitutional History and Political Science, Part II, will not be given until the candidate has passed in Part I. of that subject.

GRADUATION IN THE FACULTY OF SCIENCE.

DEGREE OF BACHELOR OF SCIENCE.

STATUTE RELATING TO THE DEGREE OF BACHELOR OF SCIENCE.

1. Candidates for the Degree of Bachelor of Science shall be matriculated students in the Faculty of Science, and shall attend lectures and practise laboratory work and pass examinations comprised in a course of study extending over not less than three completed academical years. No candidate shall present himself for examination in any year until he has satisfied the requirements of the preceding year.

2. Candidates for the Degree of Bachelor of Science who are able to attend evening classes only may be permitted to extend their studies over a period of six years.

3. Except in such cases as the Senate may otherwise determine, a statutory declaration by the candidate to the effect that he is unable to attend lectures shall be accepted as sufficient evidence to claim for him exemption from attendance at lectures. Such candidates may be permitted to extend their course of study over a period of five years. Such candidates may not present themselves for examination until they have submitted satisfactory evidence of having performed the prescribed laboratory work either in the University or in some institution recognised by the University for this purpose.

RULES.

(I.)—BACHELOR OF SCIENCE—PASS DEGREE.

Scheme of Study.

1. Subjects selected from the following list shall be studied by candidates for the Degree, and the study of the selected subjects shall extend over a period of three completed academical years:—

(*A*) Pure Mathematics, Part I., Part II., and Part III.

(*B*) Applied Mathematics, Part I. and Part II.

(*C*) Biology, Part I., Part II., and Part III.

(*D*) Chemistry, Part I., Part II., and Part III.

(*E*) Geology and Mineralogy, Part I., Part II., and Part III.

(*F*) Physics, Part I., Part II., and Part III.

2. A full year's work in any Subject shall constitute a Part of that Subject.

3. The Subjects set out in the foregoing list shall be studied in one or in two or in three Parts. No candidate shall proceed to the study of a higher Part of any Subject until he has passed in the preceding Part or Parts of that Subject.

4. A candidate shall be held to have passed in any Subject or Part of a Subject when he has attended the course of lectures, performed the laboratory or field work, and passed the examinations prescribed for that Subject or Part of a Subject.

5. The course of study may be selected by the candidate, but the selection must be approved by the Chairman of the Faculty.

First Year.

6. During the first year of their course candidates shall pass in all the Subjects of one of the following Groups:—

(*a*) Chemistry I.;
Biology I.;
Geology I.;
Physics I.

(*b*) Chemistry I.;
Biology I.;
Physics I.;
Pure Mathematics I.

(*c*) Chemistry I.;
Geology I.;
Physics I.;
Pure Mathematics I.

(*d*) Pure Mathematics I.;
Applied Mathematics I.;
Physics I.;
Chemistry I.

All candidates selecting Group (*a*) must attend lectures and pass an examination in selected portions of Pure Mathematics I.

Candidates who have fulfilled the foregoing conditions shall thereby complete their first year.

Second Year.

7. Candidates who have completed their first year may proceed to the work of the second year of their course. Such candidates shall pass in all the Subjects of one of the following Groups:—

(*a*) Chemistry II.;
Geology II.;
Biology II.

(*b*) Chemistry II.;
Physics II.;
Pure Mathematics II.

(*c*) Chemistry II.;
Geology II.;
Pure Mathematics II.

(*d*) Pure Mathematics II.;
Applied Mathematics II.;
Physics II.

(*e*) Chemistry II.;
Biology II.;
Pure Mathematics II.

(*f*) Chemistry II.;
Geology II.;
Physics II.

(*g*) Chemistry II.;
Physics II.;
Biology II.

Candidates selecting either of Groups (*f*) and (*g*) must attend lectures and pass an examination in selected portions of Pure Mathematics II.

Candidates who have fulfilled the foregoing conditions shall thereby complete their second year.

Third Year.

8. Candidates who have completed their second year may proceed to the work of the third year of their course. Such candidates shall pass in both Subjects of one of the following Groups:—

(*a*) Chemistry III.;
Biology III.

(*b*) Chemistry III.;
Geology III.

(*c*) Biology III.;
Geology III.

(*d*) Chemistry III;
Physics III.

(*e*) Physics III.
Mathematics III.

9. If a candidate has failed to complete any year of his course, the Faculty in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the Subjects or Parts of Subjects which have been studied by the candidate in that year.

10. Candidates who have completed their third year may be admitted to the Degree of Bachelor of Science.

11. Evening students who desire to extend their course of study over six years shall during their course pass in all the Subjects or Parts of Subjects prescribed in the foregoing Rules; but no Part of any Subject shall be taken out of its prescribed order. First year evening courses in Physics, Chemistry, and Geology, and Mineralogy are offered only in alternate years as follows:—

Chemistry and Geology and Mineralogy in 1922, 1924, and so on;

Physics in 1923, 1925; and so on.

12. Such candidates shall during their first two years pass in at least two Subjects in each year, and the first year's course for the Degree must be completed in these two years.

13. Subject to the limitations imposed in Rules 11 and 12, the remaining Subjects of the Course for the Degree shall be studied by the candidate in such order as the Faculty may determine in each case.

(II.) BACHELOR OF SCIENCE WITH HONOURS.

1. The Degree of Bachelor of Science with Honours may be taken in any one of the following Subjects:—

Biology;
Chemistry;
Geology and Mineralogy;
Mathematics;
Physics.

2. During each of the first two years candidates shall complete the work for the corresponding years of an approved pass course.

3. During the third year candidates shall do such work and attend such lectures as are prescribed.

4. Candidates for the Degree may present themselves for examination at any time not less than one and not more than two and a-half years after the completion of the second year of their course.

5. Candidates who fail to obtain Honours may, at the discretion of the Faculty, be recommended for the Pass Degree.

6. Notwithstanding anything to the contrary contained herein, candidates who are unable to attend the day classes may be permitted to present themselves for their Honours Examination at any time not less than one and not more than three and a-half years after the completion of the second year of their course for the Degree.

DEGREE OF BACHELOR OF APPLIED SCIENCE IN INDUSTRIAL CHEMISTRY.

The Walter and Eliza Hall School of Applied Chemistry.

13-10-15. GENERAL STATEMENT.

The Walter and Eliza Hall School of Applied Chemistry has been established by the Walter and Eliza Hall Trustees as a section of the Department of Chemistry in the University of Queensland, to provide for the training of men to take the place in chemical industry that is taken in general engineering work by the graduate of an engineering school.

Students will not be taught the details of the particular industries, but will be trained in the general principles on which industrial processes are based.

It is intended to offer a four-year course in Applied Chemistry, the students being trained in the principles and methods of Chemistry and Engineering, and in the application of these principles to industrial processes and problems.

This course will lead to the Degree of Bachelor of Applied Science in Industrial Chemistry.

This degree will carry with it all the privileges of the Degree of Bachelor of Science.

Students of the School of Applied Chemistry who have completed the third year of the course may be admitted to the Degree of Bachelor of Science.

It is also hoped to make provision for post graduate and research work in the Applied Chemistry Laboratory.

MATRICULATION REQUIREMENTS.

The Matriculation requirements for entrance to the course in Applied Chemistry in the school are the same as those for the Faculty of Engineering.

All students of the Faculty of Science who have passed in First Year Science shall be deemed to have matriculated for the purposes of the school.

STATUTE RELATING TO THE DEGREE OF BACHELOR OF APPLIED SCIENCE IN INDUSTRIAL CHEMISTRY.

1. Candidates for the Degree of Bachelor of Applied Science in Industrial Chemistry shall attend Lectures and practise Laboratory work and pass four annual examinations in subjects comprised in a course of study extending over four completed academical years.

No candidate may present himself for examination in any year until he has passed the examination of the preceding year.

2. Candidates for the Degree of Bachelor of Applied Science in Industrial Chemistry shall, during the long vacation of each year, engage in shop work and industrial work as may be prescribed.

RULES.

BACHELOR OF APPLIED SCIENCE IN INDUSTRIAL CHEMISTRY.

1. Candidates for the Degree of Bachelor of Applied Science in Industrial Chemistry shall have fulfilled the Matriculation requirements for the Faculty of Engineering.

2. A candidate shall be held to have passed in any Subject or Part of a Subject when he has attended the course of lectures, performed the laboratory and shop work, and passed the examination prescribed for that Subject or Part of a Subject.

First Year.

3. During the first year of their course, candidates shall pass in the following subjects: —

Pure Mathematics, Part I., as prescribed for Students in Engineering;

Applied Mathematics, Part I., as prescribed for Students in Engineering;

Chemistry, Part I.;

Geology and Mineralogy, Part I.;

Physics, Part I., as prescribed for Students in Engineering;

Descriptive Geometry;

Engineering Drawing and Design.

During the vacation between the first and second years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their first year.

Second Year.

4. Candidates who have completed their first year may proceed to the second year of their course. Such candidates shall pass in the following subjects:—

Pure Mathematics, Part II., as prescribed for students in Engineering;

Chemistry, Part II.;

Physics, Part II., as for engineers;

Applied Mechanics;

Heat Engines, Part I.;

Drawing and Design, Part II., part of.

During the Vacation, between the second and third years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their second year.

Third Year.

5. Candidates who have completed their second year may proceed to the third year of their course. Such candidates shall pass in the following subjects:—

Chemistry, Part III.;
Economic Geology (One Term);
Drawing and Design, Part II., completion of;
Civil Engineering, Part I.;
Hydraulics, Part I.

During the vacation between the third and fourth years of their course, candidates shall engage in approved industrial work of a chemical nature.

Candidates who have fulfilled the foregoing conditions shall thereby complete their third year.

Fourth Year.

6. Candidates who have completed their third year may proceed to the fourth year of their course. Such candidates shall pass in the following subjects:—

Applied Chemistry;
Electrical Engineering, as prescribed for Students in Civil Engineering;
Metallurgy and Assaying;
Drawing and Design;

Candidates must attend the Economics Short Course.

During the fourth year, and in the vacation at the end of the fourth year, candidates must prepare a Thesis or Report on some special branch of their work, for submission as part of the Final Examination.

Candidates who have fulfilled the foregoing conditions shall thereby complete their fourth year.

Candidates who have completed their fourth year and have submitted a satisfactory Thesis or Report may be admitted to the Degree of Bachelor of Applied Science in Chemistry and Chemical Engineering.

7. If a candidate has failed to complete any year of his course, the Faculty of Science in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the subjects of that year.

8. Candidates who can produce evidence of satisfactory practical work in the shop or works covering a period of not less than two years may apply for exemption from work of a similar nature prescribed during vacation.

STATUTE RELATING TO THE DEGREE OF MASTER OF SCIENCE.

11-3-14.

1. Candidates for the Degree of Master of Science shall be Bachelors of Science of not less than two years' standing.

2. They shall, at some examination, attain a standard not lower than that of second class in the examination for Bachelor of Science with Honours.

3. At the examination for the Degree of Master of Science account may be taken of any original work submitted by the candidate.

4. Candidates who have been placed in the first or second class in the examination for the degree of Bachelor of Science with Honours and are Bachelors of Science of not less than two years' standing may be admitted to the Degree of Master of Science without further examination.

RULES.

14-12-17.

1. Candidates must enter for or claim exemption from the examination as prescribed in the General Rules, and pay the prescribed fee.

2. Candidates who fail in the examination may sit again for examination in another year upon complying with the General Rules and paying the prescribed fee.

REGULATIONS FOR THE DEGREE OF DOCTOR OF SCIENCE.

1. Except as hereinafter provided, candidates for the Degree of Doctor of Science shall be Masters of Science of this University and shall have held the degree of Bachelor of Science for at least five years.

2. The Faculty of Science may at its discretion admit as candidates for the Degree, graduates other than Bachelors of Science of at least five years' standing who satisfy the Faculty that they have received an adequate scientific training.

3. Every candidate shall give to the examiners satisfactory evidence of scholarship and power of original research. To this end he shall submit a thesis in some branch of science on a subject proposed by the candidate and approved by the Faculty of Science. He shall adduce sufficient evidence of the authenticity and independent originality of his thesis. He may if the Faculty think fit be required to pass an examination in that branch of Science from which the subject of his thesis is taken.

4. For the purposes of the examination the candidate shall deposit with the Registrar of the University four typewritten or printed copies of his thesis.

5. In support of his candidature he may submit any of his published or unpublished original contributions to Science.

6. The Senate may at its discretion admit to examination for the Degree of Doctor of Science any person being a graduate *ad eundem gradum* of this University who shall have obtained at least five years previous to his application the Degree of Bachelor of Science or an equivalent first Degree in any other University approved by the Senate, provided that after obtaining such degree such person shall have pursued a course of advanced study and research approved by the University of Queensland, for a period of not less than two academic years. Every candidate for admission under this regulation shall make application in writing to the Registrar and supply evidence of his qualifications as aforesaid.

7. Candidates who comply with the foregoing conditions may be admitted to the Degree of Doctor of Science.

GRADUATION IN THE FACULTY OF ENGINEERING.

*DEGREE OF BACHELOR OF ENGINEERING.

STATUTE RELATING TO THE DEGREE OF BACHELOR OF ENGINEERING.

1. Candidates for the Degree of Bachelor of Engineering shall attend lectures, practise laboratory work, and pass four annual examinations in Subjects comprised in a course of study extending over four completed academical years. No candidate may present himself for examination in any year until he has passed the examination of the preceding year.

2. Candidates for the Degree of Bachelor of Engineering shall during the long vacation of each year engage in shop work or field work, as may be prescribed for the course of study chosen by the student.

RULES.

BACHELOR OF ENGINEERING.—PASS DEGREE.

NOTE.—"As prescribed for Students in Engineering" means, as a general rule, something less than the ordinary part of the subject. Particulars may be obtained from the Lecturer in the subject.

1. Candidates for the Degree of Bachelor of Engineering shall have fulfilled the matriculation requirements for the Faculty of Engineering.

2. Candidates for the Degree of Bachelor of Engineering may select a course of study in either of the following:—

(*a*) Civil Engineering;

(*b*) Mechanical and Electrical Engineering;

(*c*) Mining Engineering;

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*This degree taken in the Department of Civil and Mechanical and Electrical Engineering will, for the present, be recognised as exemption from the Associate Membership Examination of the Institution of Civil Engineers.

and study in the selected course shall extend over a period of four completed academical years.

3. A candidate shall be held to have passed in any Subject or Part of a Subject when he has attended the course of lectures, performed the laboratory or field work, and passed the examination prescribed for that Subject or Part of a Subject.

CIVIL ENGINEERING.

First Year.

4. During the first year of their course, candidates shall pass in the following subjects:—

Pure Mathematics, Part I., as prescribed for Students in Engineering;

Applied Mathematics, Part I., as prescribed for Students in Engineering;

Chemistry, Part I.;

18-9-12.

Geology and Mineralogy, Part I.;

Physics, Part I., as prescribed for Students in Engineering;

Descriptive Geometry;

Engineering Drawing and Design.

During the vacation between the first and second years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their first year.

Second Year.

5. Candidates who have completed their first year may proceed to the second year of their course. Such candidates shall pass in the following subjects:—

Pure Mathematics, Part II., as prescribed for Students in Engineering;
Applied Mathematics, Part II., as prescribed for Students in Engineering;
Chemistry, as prescribed for Students in Engineering;
Physics, Part II.;
Engineering Drawing and Design;
Applied Mechanics;
Heat Engines, Part I.

During the vacation between the second and third years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their second year.

THIRD YEAR.

6. Candidates who have completed their second year may proceed to the third year of their course. Such candidates shall pass in the following subjects:—

Mathematics, as prescribed for Students in Engineering;
Engineering Chemistry;
Engineering Geology;
Civil Engineering, Part I.; Testing of Materials;
Surveying, Part I.;
Hydraulics, Part I.;
Building Construction and Architecture;
Engineering Drawing and Design;
Electrical Engineering, as prescribed for Students in Civil Engineering.

During the vacation between the third and fourth years of their course, candidates shall engage in practical work either in the field or shop as may be required.

Candidates who have fulfilled the foregoing conditions shall thereby complete their third year.

FOURTH YEAR.

7. Candidates who have completed the third year may proceed to the fourth year of their course. Such candidates shall pass in the following subjects:—

Civil Engineering, Part II.;
Surveying, Part II.;
Hydraulics, Part II.;
Engineering Drawing and Design.

Candidates must attend the Economics Short Course. During the vacation at the end of the fourth year, candidates shall engage in work in the field or carry out such laboratory work as may be prescribed in each case.

Candidates who have fulfilled the foregoing conditions shall thereby complete their fourth year.

18-9-12.

8. If a candidate has failed to complete any year of his course, the Faculty in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the Subjects of that year.

9. Candidates before being admitted to the Degree of Bachelor of Engineering shall present a satisfactory thesis or report on one of the following:—

(*a*) An Investigation carried out in the laboratory;
(*b*) Work carried out in the field;

or shall submit a set of working drawings covering the design of such works or structures as may be approved.

10. Candidates who have completed their fourth year and have presented a satisfactory thesis, report, or design may be admitted to the Degree of Bachelor of Engineering (Civil).

11. Candidates who can produce evidence of satisfactory practical work in the shop or field covering a period of not less than two years may apply for exemption from work of a similar nature prescribed during the vacations.

MECHANICAL AND ELECTRICAL ENGINEERING.

First Year.

12. During the first year of their course, candidates shall pass in the following subjects:—

Pure Mathematics, Part I., as prescribed for Students in Engineering;

Applied Mathematics, Part I., as prescribed for Students in Engineering;

Chemistry, Part I.;

Geology and Mineralogy, Part I.;

18-9-12.

Physics, Part I., as prescribed for Students in Engineering;

Descriptive Geometry;

Engineering Drawing and Design.

During the vacation between the first and second years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their first year.

Second Year.

13. Candidates who have completed their first year may proceed to the second year of their course. Such candidates shall pass in the following subjects:—

Pure Mathematics, Part II., as prescribed for Students in Engineering;

Applied Mathematics, Part II., as prescribed for Students in Engineering;

Chemistry, as prescribed for Students in Engineering;

Physics, Part II.;

Engineering Drawing and Design;

Applied Mechanics;

Heat Engines, Part I.

During the vacation between the second and third years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their second year.

Third Year.

14. Candidates who have completed their second year may proceed to the third year of their course. Such candidates shall pass in the following subjects:—

Mathematics, as prescribed for Students in Engineering;

Applied Electricity;

Civil Engineering, Part I.; Testing of Materials, as prescribed for Students in Mechanical and Electrical Engineering;

Surveying, Part I.;

Engineering Drawing and Design;

Engineering Chemistry;

Heat Engines, Part II.;

Hydraulics, Part I.

During the vacation between the third and fourth years of their course, candidates shall engage in shop work in an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their third year.

FOURTH YEAR.

15. Candidates who have completed their third year may proceed to the fourth year of their course. Such candidates shall pass in the following subjects:—

Mechanical Engineering;
Electrical Engineering;
Engineering Drawing and Design.

During the vacation at the end of the fourth year, candidates shall either engage in shop work at an approved engineering workshop, or carry out such laboratory work as may be prescribed in each case.

Candidates who have fulfilled the foregoing conditions shall thereby complete their fourth year.

18-9-12.

16. If a candidate has failed to complete any year of his course, the Faculty in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the Subjects of that year.

17. Candidates before being admitted to the Degree of Bachelor of Engineering shall present a satisfactory thesis or report on one of the following:—

(*a*) An Investigation carried out in the laboratory;
(*b*) Work carried out in the field;

or shall submit a set of working drawings covering the design of such machinery or structure as may be approved.

18. Candidates who have completed their fourth year and have presented a satisfactory thesis, report, or design may be admitted to the Degree of Bachelor of Engineering (Mechanical and Electrical).

19. Candidates who can produce evidence of satisfactory practical work in the shop or field covering a period of not less than two years may apply for exemption from work of a similar nature prescribed during the vacations.

MINING ENGINEERING.

First Year.

20. During the first year of their course, all candidates shall pass in the following subjects:—

Pure Mathematics, Part I., as prescribed for Students in Engineering;
Applied Mathematics, Part I., as prescribed for Students in Engineering;
Chemistry, Part I.;
8-9-12.
Geology and Mineralogy, Part I.;
Physics, Part I., as prescribed for Students in Engineering;
Descriptive Geometry;
Engineering Drawing and Design.

During the vacation between the first and second years of their course, candidates shall engage in shop work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their first year.

Second Year.

21. Candidates who have completed the work of the first year may proceed to the second year of their course. Such candidates shall pass in the following subjects:—

Pure Mathematics, Part II.;
Applied Mathematics, Part II., as prescribed for Students in Engineering;
Chemistry, as prescribed for Students in Engineering;
Physics, Part II.;
Engineering Drawing and Design;
Applied Mechanics;
Heat Engines, Part I.

During the vacation between the first and second years of their course, candidates shall engage in work at an approved engineering workshop.

Candidates who have fulfilled the foregoing conditions shall thereby complete their second year.

Third Year.

22. Candidates who have completed their second year may proceed to the third year of their course. Such candidates shall pass in the following subjects:—

Engineering Chemistry;
Geology, Part II.;
Civil Engineering, Part I., Testing of Materials, as prescribed for Students in Mining Engineering;
Surveying, Part I.;
Hydraulics, Part I.;
Engineering Drawing and Design.

During the vacation between the third and fourth years of their course, candidates shall engage in approved work in the field.

Candidates who have fulfilled the foregoing conditions shall thereby complete their third year.

Fourth Year.

23. Candidates who have completed their third year may proceed to the fourth year of their course. Such candidates shall pass in the following subjects:—

Mining Engineering;
Electrical Engineering, as prescribed for Students in Mining Engineering;
Assaying;
Metallurgy;
Engineering Drawing and Design.

During the vacation at the end of their fourth year, candidates shall engage in practical work at an approved mine or carry out such laboratory work as may be prescribed in each case.

Candidates who have fulfilled the foregoing conditions shall thereby complete their fourth year.

19-9-12.

24. If a candidate has failed to complete any year of his course, the Faculty in its discretion may grant exemption in whole or in part from further attendance at lectures and from further laboratory practice in any or all of the subjects of that year.

25. Candidates, before being admitted to the Degree of Bachelor of Engineering, shall present a satisfactory thesis or report on one of the following:—

(*a*) An Investigation carried out in the laboratory;

(*b*) Work carried out in the field;

or shall submit a set of working drawings covering the design of such works, machinery, or structures as may be approved.

26. Candidates who have completed their fourth year and have presented a satisfactory thesis, report, or design may be admitted to the Degree of Bachelor of Engineering (Mining).

27. Candidates who can produce evidence of satisfactory practical work in the shop or field covering a period of not less than two years may apply for exemption from work of a similar nature prescribed during the vacations.

BACHELOR OF ENGINEERING—HONOURS DEGREE.

17-5-18.

28. Honours shall be awarded at graduation after consideration of the candidate's record throughout his

academic career in addition to such special work and tests as may be thought advisable. Candidates for honours must notify the Chairman of the Faculty at the beginning of their fourth year of their intention to apply.

STATUTE RELATING TO THE DEGREE OF MASTER OF ENGINEERING.

1-3-14.

1. The Degree of Master of Engineering may be taken in any one of the following groups:—

(*a*) Civil Engineering;
(*b*) Mechanical and Electrical Engineering;
(*c*) Mining Engineering.

2. Candidates shall be Bachelors of Engineering of at least three years' standing; shall be of the full age of 25 years; and shall be engaged in the design or in the construction of such works as are comprised within the profession of a civil engineer.

3. Candidates will be required to pass an examination in the subjects of that group which they have selected, provided that candidates who have obtained first-class honours at the degree of Bachelor of Engineering will be exempted from further examination.

4. Candidates must furnish certificates of practical training, covering at least four years, as assistant to a Civil Engineer. One year at least of this period must have been spent in the office in the design of Engineering work, and one year at least in or upon Engineering works. Persons who are engaged as teachers, or in research in the engineering laboratories of an approved institution, will be regarded as engaged in the design of Engineering work, but not more than one year of such work will be accepted as part of the practical experience demanded.

5. For the purposes of paragraph 4, an approved institution is one in which the laboratory equipment is approved by the Senate on the recommendation of the Faculty of Engineering.

6. For the purposes of paragraphs 2 and 4, the term "Civil Engineer" embraces all civilians who are engaged in the design or construction of Engineering works of the kind recited in the Royal Charter of the Institution of Civil Engineers, England.

7. Candidates who have fulfilled the foregoing conditions will be admitted to the Degree of Master of Engineering.

RULES.

14-12-17.

1. Candidates must enter for or claim exemption from the examination as prescribed in the General Rules, and pay the prescribed fee.

2. Candidates who fail in the examination may sit again for examination in another year upon complying with the General Rules and paying the prescribed fee.

GRADUATION IN A SECOND FACULTY.

RULES FOR GRADUATES PROCEEDING TO OTHER DEGREES.

8-10-13.

1. Graduates who have obtained the Degree of Bachelor in any Faculty, and who wish to proceed to the Degree of Bachelor in any other Faculty, shall obtain credit for all work common to the two Degrees that they may have done during their course leading to the First Degree.

2. The subjects or parts of subjects which are required to complete the work prescribed for the Second Degree shall be done by the candidate in the order prescribed by the Faculty in which the Second Degree is sought: Provided that in the Mathematical subjects credit towards a Second Degree of Bachelor shall be given only in respect of the first and second years of those subjects.

DIPLOMA IN MECHANICAL AND ELECTRICAL ENGINEERING.

STATUTE RELATING TO THE DIPLOMA IN MECHANICAL AND ELECTRICAL ENGINEERING.

1. Candidates for the Diploma in Mechanical and Electrical Engineering shall attend lectures, practise laboratory work, and pass examinations in subjects comprised in a course of study extending over four completed years. No candidate may present himself for examination in the second or any subsequent year until he has passed the examination of the preceding year.

2. The course of study for the Diploma in Mechanical and Electrical Engineering may be followed in such Technical Colleges or Institutions as may be approved by the Senate on the recommendation of the Faculty of Engineering.

3. An approved College or Institution shall be one in which the Teachers and Equipment are approved by the Senate, and subject to the inspection of any Officer appointed by the Senate.

4. The examination of candidates for the Diploma in Engineering shall be conducted by persons nominated by the Senate on the recommendation of the Faculty of Engineering.

5. Candidates must submit evidence that they are or have been engaged in Engineering or in a trade closely allied thereto.

RULES.

Entrance Requirements.

1. Candidates for the Diploma in Mechanical and Electrical Engineering shall pass an Entrance Examination in the following subjects:—

(*a*) English, including simple questions in English History and Geography;

(*b*) Arithmetic;

(*c*) Algebra;

(*d*) Geometry.

Exemption from examination in any one of these subjects will be granted if the candidate has passed the Junior Public Examination in the subject.

14-9-17.

Candidates who have passed at the Annual Technical College Examinations on the Subjects of English I., Arithmetic and Mensuration I., Algebra I., Geometry and Geography I., shall be eligible for admission as students of the Diploma Course.

In special circumstances additional entrance examinations may be held by Technical Colleges in the subjects mentioned in the last paragraph. In such cases a copy of the draft examination papers shall be submitted for the approval of the Chairman of the Faculty of Engineering.

Courses.

2. Two courses have been arranged—

(*a*) Course A may be taken by students who seek to obtain a Diploma (only);

(*b*) Course B may enable a student to gain a Diploma, and in addition obtain exemption from the first two years of the day Engineering

Courses and enter, if matriculated, the third year of the day courses in Engineering. Candidates who elect to proceed to a Degree in Engineering in this manner must satisfy the conditions of the Statute (Clause 5), but at least six months of their practical training must have been received in approved workshops.

3. A candidate shall be held to have passed in any subject or part of a subject when he has attended the course of lectures, performed the laboratory work, and passed the examination prescribed for that subject or part of a subject.

Course A.

4. During the first year of their course, candidates shall pass in the following subjects:—

(*a*) Mathematics;
(*b*) Mechanical Drawing.

5. During the second year of their course, candidates shall pass in the following subjects:—

(*a*) Applied Mathematics;
(*b*) Physics;
(*c*) Mechanical Drawing.

6. During the third year of their course, candidates shall pass in the following subjects:—

(*a*) Physics;
(*b*) Applied Mechanics;
(*c*) Mechanical Drawing.

7. During the fourth year of their course, candidates shall pass in the following subjects:—

(*a*) Heat Engines;
(*b*) Electrical Engineering;
(*c*) Machine Design and Drawing.

Course B.

8. Students of Course B should register themselves at the Central Technical College.

9. Unless otherwise specified, the subjects of Course B shall be taken as evening work at the University.

10. During the first year of their course, candidates may pass in the following subjects: —

(*a*) Pure Mathematics I., as prescribed for students in first year of Engineering;

(*b*) Applied Mathematics I., as prescribed for students in first year of Engineering;

(*c*) Chemistry I., as prescribed for students in first year of Engineering.

11. During the second year of their course, candidates may pass in the following subjects:—

(*a*) Pure Mathematics II., as prescribed for students in second year of Engineering;

(*b*) Physics I., as prescribed for students in first year of Engineering;

(*c*) Chemistry II. (Part I.), as prescribed for students in second year of Engineering.

12. During the third year of their course, candidates may pass in the following subjects:—

(*a*) Applied Mathematics II., as prescribed for students in second year of Engineering;

(*b*) Geology as prescribed for students in first year of Science, exclusive of field work;

(*c*) Physics II. (Part I.), as prescribed for students in second year of Engineering;

(*d*) Chemistry II. (Part II.), as prescribed for students in second year of Engineering.

13. During the fourth year of their course, candidates may pass in the following subjects:—

(*a*) Physics II. (second part), as prescribed for students in second year of Engineering;

(*b*) Descriptive Geometry, as for Course A (to be taken at the Central Technical College);

(*c*) Mechanical Drawing, as for Course A (to be taken at the Central Technical College);

(*d*) Applied Mechanics, as for Course A (to be taken at the Central Technical College).

14. During the fifth year of their course, candidates may pass in the following subjects:—

(*a*) Machine Design and Drawing, as for Course A (to be taken at the Central Technical College);

(*b*) Heat Engines, as for Course A (to be taken at the Central Technical College);

(*c*) Electrical Engineering, as for Course A (to be taken at the Central Technical College, or, if proceeding to a Degree, as a subject of the day Engineering courses).

General.

15. Candidates who have fulfilled the foregoing conditions shall thereby be deemed to have qualified for the Diploma in Mechanical and Electrical Engineering.

16. Candidates who enter the third year day Engineering Course must complete certain field work in Geology, which will be prescribed during the third year course.

17. The Course B outlined above may be spread over a greater number of years, provided that the subjects are taken in an approved order.

(*Note.*—At present the subjects in the Faculty of Science are governed by the Regulations relating to evening students in the Faculty of Science, under which certain subjects are taken in alternate years, and the course will be arranged accordingly.)

18. Candidates will qualify for matriculation providing that they have passed the subjects outlined in the first three years of the Course B, and have in addition passed in Senior English and one other language to the standard required for matriculation in the Faculty of Engineering.

19. It should be clearly understood that any person is at liberty to obtain instruction in any subject in the various courses in the Faculty of Engineering without matriculation, but such person will not qualify for a degree in Engineering; also that the Courses A and B stated above are intended for candidates fulfilling the conditions of the Statute, clause 5.

EXTERNAL STUDENTS.

In cases where persons who have matriculated are unable to attend lectures at or in connection with the University, exemption from lecture attendance is granted. Their studies are under the Director of Correspondence Studies, and they are deemed to be "External Students." It is desirable that persons who wish to be accepted as External Students should make application to the Registrar not later than 31st January in each year.

Except in such cases as the Senate may otherwise determine, a statutory declaration by a candidate to the effect that he is unable to attend lectures shall be accepted as sufficient evidence to claim for him exemption from attendance at lectures. Such candidates may be permitted to extend their course of study over a period of five years.

External Students are required to renew their status from year to year. Forms for this purpose may be obtained at the Registry.

External Students may be allowed credit in a year for not less than two subjects or parts of subjects in which they have passed. A Supplementary Examination will be granted in March to those who have presented themselves but failed to pass in all or any of their subjects in the Annual Examinations. External Students who have obtained 8 units of credit may be admitted to the degree of Bachelor of Arts on passing in the one subject or part of a subject necessary to complete the 9 units of credit required for the Degree. Examinations may be held at Local Centres (at the same time as at the University) for the convenience of External Students who are unable, through distance, to present themselves at the University.

The fees payable may be ascertained on application to the Registrar or to the Director of Correspondence Studies.

The Courses offered to External students are:—

(*a*) In any year—
Latin I.;
English I.;
British History I.;
Logic and Psychology I.;
Pure Mathematics I.

(*b*) In 1922 and subsequent alternate years—
French II.;
British History II.;
Ethics and Metaphysics;
Applied Mathematics I.;
Education.

(*c*) In 1923 and subsequent alternate years—
English II.;
French I.;
Logic and Psychology II.;
Pure Mathematics II.;
Economics.

The above list may be modified.

CLASSIFYING EXAMINATIONS OF THE DEPARTMENT OF PUBLIC INSTRUCTION.

1. As far as the subjects of the examinations correspond, the Class III. Examination is regarded as equivalent to the Junior Public Examination for University purposes.

2. Class II. and Senior Public Examinations are regarded as mutually equivalent.

3. Candidates will get no credit for a pass in the Public Examinations unless they have fulfilled, in the Class or the Public Examinations, the requirements for a pass in the latter.

4. Candidates may obtain credit for their Class Examinations if they fulfil the conditions for that credit, either in the Class or the Public Examinations.

5. Candidates who at the Class Examinations fulfil the requirements for matriculation in any Faculty will be eligible for matriculation in that Faculty under the present requirements.

6. The papers in Class I. Examinations in subjects which are subjects of the University curriculum will be set and examined by the University, the standard being the same as that required for those subjects of the first year Arts or first year Science, with this proviso: That passes in subjects of the first year Arts or first year Science and in corresponding subjects of the Class I. Examinations will be recognised as mutually equivalent. Candidates must fulfil all the requirements in Class I. to obtain credit for that examination, and similarly they must fulfil all the requirements for graduation as set forth in the Calendar in any year to obtain credit for their degree course.

DETAILS OF SUBJECTS.

FACULTY OF ARTS—B.A. DEGREE.

A.—CLASSICS AND ANCIENT HISTORY.

Professor Michie and Mr. Castlehow.

I. LATIN. II. GREEK.

LATIN, PART I.; AND GREEK, PART I.

The subjects of Examination will be:—

1. Such Authors or portions of Authors as are prescribed for special study (see below).
2. Prose Composition.
3. Translation from Authors not specially prescribed.
4. Outlines of Roman History and Greek History.
5. Outlines of Latin Literature and Greek Literature.

Special Authors are prescribed, as follows:—

For the Examination of 1922.

LATIN, PART I.

1. Vergil, Æneid VI., Page (Macmillan)
2. Horace, Epistles I., Wilkins (Macmillan)
3. Cicero, Select Orations, King (Clarendon Press).

GREEK, PART I.

1. Demosthenes, Olynthiacs and Philippic I., Sandys (Macmillan)
2. Homer, Iliad I., Bond and Walpole (Macmillan)
3. Æschylus, Prometheus Vinctus, Sikes and Willson (Macmillan).

For the Examination of 1923.

LATIN, PART I.

1. Livy, Book XXI., Trayes (Bell and Son)
2. Vergil, Æneid II., Page (Macmillan)
3. Tacitus, Agricola, Church and Brodribb (Macmillan)

GREEK, PART I.

1. Homer, Odyssey, IX. and X., Edwards (Cambridge University Press)
2. Demosthenes, Olynthiacs and Philippic I., Sandys (Macmillan)
3. Aristophanes, Clouds, Merry (Clarendon Press)

LATIN, PART II.; AND GREEK, PART II.

The subjects of Examination will be:—

1. Authors, or portions of Authors, prescribed for special study.
2. Prose Composition.
3. Translation from Authors not specially prescribed.
4. History, as prescribed.
5. Literature, as prescribed.

For the Examination of 1922.

(*a*) Special authors—

LATIN, PART II.

Tacitus, Histories II., Godley (Macmillan)
Juvenal, Satires, Duff (Macmillan)
Livy, XXII., Capes and Melhuish (Macmillan).

GREEK, PART II.

Herodotus VII., Butler (Macmillan)
Thucydides IV., Graves (Macmillan)
Aristophanes, Frogs, Merry (Clarendon Press)

(*b*) History—

Greek History, General; Roman History, Special Period, Augustus to Trajan, with particular attention to the Settlement of Augustus and a critical study of the sources for the Reign of Nero.

(*c*) Literature—

General knowledge.

For the Examination of 1923.

(*a*) Special authors—

LATIN, PART II.

Seneca, Dialogues X., XI., XII., Duff (Cambridge University Press)
Cicero, Select Letters, Watson (Clarendon Press)
The Hundred Best Latin Poems, Mackail (Gowans and Gray)

GREEK, PART II.

Euripides, Alcestis, Earle (Macmillan)
Æschylus, Agamemnon, Sidgwick (Clarendon Press)
Demosthenes, de Corona, Goodwin (Cambridge University Press)

(*b*) History—

Roman History, General; Greek History, Special Period, 510-404 B.C.

(*c*) Literature—

General knowledge.

CLASSICAL HONOURS.

COURSE EXTENDING OVER THREE OR FOUR YEARS.

The Examination for Classical Honours will be held in March in each year.

Before presenting themselves for Examination, candidates must have done the work of *five* full Courses at least in their Honours Group, and generally conformed with the rules for graduation in Arts.

The Subjects of Examination will be:—

1. Prose Composition, Greek and Latin.
2. Translation from Authors not specially prescribed.
3. Authors specially prescribed. (*See note A.*)
4. Literature—
   (*a*) General;
   (*b*) Special studies, as prescribed. (*See note B.*)
5. History—
   (*a*) General;
   (*b*) Special periods, as prescribed. (*See note C.*)
6. Greek Philosophy. (*See note D.*)

Prescribed Work.

HONOURS EXAMINATIONS, 1922-1924.

(*a*) Authors—

For March, 1922.

Herodotus, VII.
Aristophanes, Birds
Attic Orators, Selections (Jebb)
Æschylus, Agamemnon
Theocritus
Demosthenes, de Corona
Tacitus, Histories I.
Vergil, Aeneid I. and II.
Livy, Book XXII.
Horace, Epistles I. and II.
Cicero, Select Letters (Watson)
Catullus, Select Poems (Simpson).

For March, 1923.

Æschylus, Agamemnon
Theocritus
Demosthenes, de Corona
Thucydides, IV.
Aristophanes, Frogs
Herodotus, VII.

Horace, Epistles I. and II.
Cicero, Select Letters (Watson)
Catullus, Select Poems (Simpson)
Tacitus, Histories II.
Juvenal, Satires (Duff)
Livy, XXII.

For March, 1924.

Herodotus, VII.
Thucydides, IV.
Aristophanes, Frogs
Euripides, Alcestis
Æschylus, Agamemnon
Demosthenes, de Corona
Tacitus, Histories II.
Juvenal, Satires (Duff)
Livy, XXII.
Seneca, Dialogues X.—XII.
Cicero, Select Letters
The Hundred Best Latin Poems

(*b*) History—

(i.) Greek, General, and Special Period, 510-404 B.C.

(ii.) Roman, General, and Special Period, Augustus to Trajan, with particular attention to the Settlement of Augustus and a critical study of the sources for the Reign of Nero.

(*c*) Literature—

The two special subjects studied in the two years preceding examination.

(*d*) Ancient Philosophy. (*See note D, infra.*)

NOTES.

A.—Prescribed Books.

The same list of special authors is prescribed for the Honours Courses and for the Pass Course, Part II., but Candidates for Honours will offer for their final Examination the special authors of two consecutive Part II. Pass Courses, and will be expected to show a higher standard of knowledge than is required in the Graduation Course.

B.—Lectures in Ancient Literature will be given—
In 1922: The Greek and Roman Epic.
In 1923: Greek Drama and Aristotle's Poetics.

C.—Lectures on Ancient History will be given—
In 1922: Roman, Special Period; Greek, General.
In 1923: Roman, General; Greek, Special Period.

D.—On Greek Philosophy two Courses of Lectures will be given in consecutive years as prescribed, with special study of

Plato, Republic, Phædo, Gorgias, Phædrus, Symposium, and Meno; and select chapters of Aristotle, Ethics, and Politics. Candidates for Classical Honours will be required to show a thorough knowledge of the Greek Text of the original authorities. Essays on the subject-matter will be required periodically.

In addition to the Authors prescribed for special study, students should have copies of the following books:—

For Roman History—

How and Leigh: History of Rome (Longmans). Pelham: Roman History (Rivington). Bury: Student's Roman Empire (Murray).

Also texts of Tacitus (Annals and Histories, edited by C. D. Fisher, Oxford Classical Texts) and of Suetonius (Teubner).

For Greek History—

Bury: History of Greece (Macmillan); *or* Holm: History of Greece, 4 vols. (Macmillan).

Also texts of Thucydides and Herodotus (Oxford Classical Texts).

For Greek and Latin Literature—

Murray: Greek Literature (Heinemann).
Mackail: Latin Literature (John Murray).

For Ancient Philosophy—

Plato: Ed. J. Burnet (Oxford Classical Texts: Vols. 1-4).
Wallace: Outlines of Aristotle's Philosophy (Cambridge).
Aristotle: Ethica Nicomachea, ed. Bywater (Oxford).
Jowett's Translation and Introductions to the Republic can now be got in the Oxford Library of Translations (Clarendon Press, 2 Vols., 7s.).

Suggestions for reading will be given during the various lecture courses.

III. ANCIENT HISTORY.

The Graduation Course in Ancient History will extend over two years, the work of one year counting as a half Course. One Lecture a week will be delivered in each year.

Prescribed Work.

1922: Greek, General; Roman, Special: Augustus to Trajan.
1923: Roman, General; Greek, Special: 510-404 B.C.

Candidates proceeding to Honours in Classics take the Lectures of this Course as an integral part of their Honours work. Special Papers on the Course are set in the Final Examination for Classical Honours.

B.—MODERN LANGUAGES AND LITERATURE.

Mr. Stable.

IV. ENGLISH.

PART I.

1. Outline History of the Language and Literature.
2. The Elizabethan Period.

Text-books.

Bradley: The Making of English.
Handbooks of English Literature. The Age of Shakespeare.

Special Authors.

1922.

Bacon: Essays.
Marlowe: Edward II.
Shakespeare: Richard II.
Much Ado about Nothing.
Ben Jonson: Every Man in his Humour.
Spenser: Faery Queene, Book I.
The Oxford Book of English Verse.

1923.

Sydney: Apologie for Poetrie.
Kyd: Spanish Tragedy.
Shakespeare: Romeo and Juliet.
A Midsummer Night's Dream.
Beaumont and Fletcher: Philaster.
Spenser: The Shepherd's Calendar.
The Poetry of the Age of Shakespeare (Cambridge Anthologies).

1924.

Hakluyt: Voyages of Hawkins, Frobisher and Drake (Oxford).
Greene: Friar Bacon and Friar Bungay.
Shakespeare: King John.
Merchant of Venice.
The Return from Parnassus.
Spenser: The Faery Queene, Book II.
The Poetry of the Age of Shakespeare (Cambridge Anthologies).

PART II.

1. English Literature from the Elizabethan Period to 1832.
2. Fourteenth Century Literature.

Text-books.

Handbooks of English Literature. The Age of Chaucer.

Special Authors.

1922.

Chaucer: The Canterbury Tales (Prologue and Nunne's Preeste's Tale).
Langland: Piers the Plowman. Passus I.-IV.
Shakespeare: Othello.
Dryden: Essay of Dramatic Poesy.
Swift: Battle of the Books.
Johnson: Rasselas.
Shelley: Poems.
The English Parnassus (Oxford).

1923.

Chaucer: The Canterbury Tales (Prologue and Man of Lawe's Tale).
The Tale of Gamelyn.
Shakespeare: Cymbeline.
Steele: Selections (Oxford).
Goldsmith: The Bee, and other Essays (Oxford).
Coleridge: Biographia Literaria.
Keats: Poems.
The English Parnassus (Oxford).

1924.

Chaucer: The Canterbury Tales (Prologue and Knight's Tale).
King Horn.
Shakespeare: Hamlet.
Dryden: Prose Selections (Yonge-Macmillan).
Boswell: Life of Johnson.
Lamb: Essays of Elia.
Byron: Minor Poems.
The English Parnassus (Oxford).

PART III.

(Honours Students only.)

1. The History of Criticism.
2. The Victorian Age.

Text-books.

Handbooks of English Literature: The Age of Tennyson.

Set Authors.

1922.

Carlyle: Past and Present.
Borrow: Lavengro.
Ruskin: The Seven Lamps of Architecture.
Thackeray: The Book of Snobs.
Dickens: Selected Novel.
Tennyson: The Idylls of the King.
Browning: Men and Women.
The English Parnassus.

1923.

Macaulay: Life of Goldsmith.
de Quincey: Confession of an Opium Eater.
Matthew Arnold: Essays in Criticism.
Dickens: American Notes and Pictures from Italy.
Thackeray: Selected Novel.
Elizabeth Barrett Browning: Poems.
William Morris: The Life and Death of Jason.
The English Parnassus.

1924.

Carlyle: Sartor Resartus.
Landor: Imaginary Conversations.
Thackeray: English Humourists.
English Critical Essays (Nineteenth Century).
Dickens: Selected Novel.
Tennyson: The Princess.
Swinburne: Minor Poems.
The English Parnassus.

HONOURS COURSE EXTENDING OVER THREE OR FOUR YEARS.

The Examination for Modern Languages and Literature Honours will be held in March in each year.

Before presenting themselves for examination, candidates must have done the work of *six* full Courses in their Honours Group, and generally conformed with the rules for graduation in Arts.

Candidates for Honours in Modern Languages and Literature must select one of the following groups:—

(*a*) English, French.
(*b*) English, German.
(*c*) French, German.

The subjects for examination will be—

ENGLISH.

1. Essay on Literary History or Literary Criticism.
2. English Literature and Languages from the Renaissance to the Romantic Period.
3. The Victorian Period and Contemporary Literature.
4. Special Author or Authors.
5. Passages from selected English writings between 1200 and 1500 for translation, with questions on Language Metre and Literary History.
6. Passages from selected writings in old English earlier than 1200 for translation, with questions on Language, Metre, and Literary History.

Special Text-books.

Sweet: Anglo-Saxon Reader.
Emerson: Middle English Reader.

Special Authors—

March, 1923—Milton.
March, 1924—Wordsworth and Coleridge.
March, 1925—Shelley and Keats.

V. FRENCH.

FRENCH—PART I.

1. Composition and Translation.
2. Outline History of French Literature and Language.
3. The Age of Louis XIV.

Text-books.

Saintsbury: A Short History of French Literature.

Prescribed books.

1922.

Corneille: Le Cid.
Molière: L'Ecole des Femmes.
Racine: Mithridate.
Fenelon: Télémaque.
Boileau: Art Poétique.
Saintsbury: Specimens of French Literature.
George Sand: François le Champi.

1923.

Corneille: Cinna.
Molière: Le Tartuffe.
Racine: Britannicus.
Pascal: Opuscules.
La Fontaine: Fables (Book I.).
Saintsbury: Specimens of French Literature.
Flaubert: Salammbô.*

* To be prepared for Oral Examination.

1924.

Corneille: Horace.
Molière: Les Femmes Savantes.
Racine: Athalie.
Bossuet: Oraisons Funèbres.
Boileau: Le Lutrin.
Saintsbury: Specimens of French Literature.
Balzac: Eugénie Grandet.

FRENCH—PART II.

1. Composition and Translation.
2. The 16th Century.
3. The 18th Century.

Prescribed books.

1922.

Montaigne: Principaux Chapitres et Extraits des Essais (Hachette).
Voltaire: Zaïre.
Beaumarchais: Le Mariage de Figaro.
Choix de Lettres du XVIIIe Siècle (Hachette).
Rousseau: L'Emile.
Mme. de Staël: De la Littérature.
Anthologie des Poètes Français, des Origines au XVIIIe Siècle (Ed. Lemerre).

1923.

La Satire Ménippée.
Le Sage: Turcaret.
Piron: La Métromanie.
Les Encyclopédistes (Dent).
Voltaire: Extraits en Prose (Hachette).
Rousseau: Lettre à d'Alembert sur les Spectacles.
Anthologie des Poètes Français des Origines au XVIIIe Siècle (Ed. Lemerre).

1924.

La Defense et Illustration de la Langue Française.
Voltaire: Mérope.
Sedaine: Le Philosophe sans le savoir.
Les Encyclopédistes (Dent).
Rousseau: Rêveries d'un Promeneur Solitaire.
Chateaubriand: Les Martyrs.
Anthologie des Poètes Français, des Origines au XVIIIe Siècle (Ed. Lemerre).

French—Part III.

(Honours Students only.)

1. Composition and Translation.
2. History of Criticism.
3. The Nineteenth Century.

Text-book.

Brunetiére: l'Evolution des genres.

Prescribed books.

1922.

Victor Hugo: Hernani.
Mæterlinck: Mélusinde.
Chateaubriand: Mémoires d'Outre-Tombe.
Melchior de Vogué: Les Morts qui Parlent.
La Lignée des Poètes au XIX^{e} Siècle: Charles Bonnier (Oxford).

1923.

Pailleron: Le Monde où l'on s'Ennuie.
François de Curel: La Nouvelle Idole (Georges Crès).
Taine: Voyage aux Pyrénées.
Anatole France: L'Orme du Mail.
La Lignée des Poètes au XIX^{e} Siècle: Charles Bonnier (Oxford).

1924.

Victor Hugo: Cromwell.
Rostand: Cyrano de Bergerac.
Renan: Souvenirs d'Enfance et de Jeunesse.
Flaubert: Mme. Bovary.
La Lignée des Poètes au XIX^{e} Siècle: Charles Bonnier (Oxford).

Honours—French.

1. Alternative subjects for an Essay (in French) on French Literature or Literary Criticism.

2. Passages from unspecified French authors not earlier than 1500 for translation and explanation.

3. Passages from English authors to be translated into French.

4. French Literature and language from the Renaissance to the end of the Nineteenth Century.

5. Special author or authors.

6. (*a*) Passages from specified French writings earlier than 1500 for translation and explanation, with questions on the language, metre, and literary history.

(*b*) Questions on the elements of historical French Grammar.

Set-book.

Specimens of Old French—Paget Toynbee (Oxford).

Special Authors.

March, 1923—Racine.
March, 1924—Boileau.
March, 1925—André Chénier.

VI. GERMAN.

GERMAN—PART I.

1. Composition and Translation.
2. Outline History of German Literature and Language.
3. The XVIIIth Century.

Text-books.

Kluge: Geschichte der Deutschen National Literatur.

Prescribed Books.

1922.

Lessing: Minna von Barnhelm.
Schiller: Maria Stuart.
Goethe: Faust (erster Theil).
Goethe: Leiden des jungen Werther.
The Oxford Book of German Verse.
Heyse: L'Arrabbiatta (Heath).*

1923.

Lessing: Nathan der Weise.
Schiller: Wilhelm Tell (Cambridge).
Goethe: Hermann und Dorothea.
Goethe: Italienische Reise.
The Oxford Book of German Verse.
Riehl: Kulturgeschichtliche Novellen (Cambridge).*

1924.

Lessing: Minna von Barnhelm.
Schiller: Maria Stuart.
Goethe: Egmont.
Goethe: Wahrheit und Dichtung.
The Oxford Book of German Verse.
Chamisso: Peter Schlemihl.*

* To be prepared for Oral Examination.

GERMAN—PART II.

1. Composition and Translation.
2. German Poetry from Opitz to Lessing.
3. The Rise of the Romantic School.

Text-book.

Kluge: Geschichte der Deutschen National Literatur.

Prescribed Set-books.

1922.

Opitz: Das Buch von der Deutschen Poeterey.
Gellert: Fabeln und Erzählungen.
Lessing: Der Laokoon.
F. Schlegel: Fragments.
Kleist: Das Käthchen von Heilbronn.
The Oxford Book of German Poetry.

1923.

Opitz: Das Buch von der Deutschen Poeterey.
Klopstock: Der Messias, Erster Teil.
Lessing: Der Laokoon.
Tieck: Der Gestiefelte Kater.
Kleist: Michael Kohlhaas.
The Oxford Book of German Poetry.

1924.

Opitz: Das Buch von der Deutschen Poeterey.
Gellert: Fabeln und Erzählungen.
Lessing: Der Laokoon.
Novalis: Heinrich von Ofterdingen.
Schiller: Die Jungfrau von Orleans.
The Oxford Book of German Poetry.

GERMAN—PART III.

1. Composition and Translation.
2. History of Criticism.
3. The Nineteenth Century.

Prescribed books.

1922.

Heine: Harzreise.
Melchior Meyr: Ludwig und Annemarie.
Halm: Griseldis.
Sudermann: Das Gluck in Winkel.
Tieck: Liebesfrühling.
The Oxford Book of German Verse.

1923.

Arnim: Die Kronenwachter.
Raabe: Else von der Tanne.
Uhland: Ernest Herzog von Schwaben.
Hebbel: Gyges und sein Ring.
Heine: Buch der Lieder.
The Oxford Book of German Verse.

1924.

Eichendorff: Aus dem Leben eines Taugenichts.
Freytag: Soll und Haben.
Grillparzer: Des Meeres und der Liebe Wellen.
Hauptmann: Die Versunkene Glocke.
Uhland: Gedichte.
The Oxford Book of German Verse.

HONOURS—GERMAN.

The examination is similar to that in French.

Set-books.

Alt Hochdeutsches Lesebuch: Braune.
Walter von der Vogelweide: Gedichte.

Special Authors.

March, 1923—Goethe.
March, 1924—Schiller.
March, 1925—Heine.

C.—HISTORY AND ECONOMICS.

Mr. Alcock and Mr. Melbourne.

VII. BRITISH HISTORY.

PART I.

(*a*) English History to 1701;
(*b*) Colonial History to 1910.

Books Prescribed.

Student's Manual of English Constitutional History: D. J. Medley.
Short History of British Colonial Policy: H. E. Egerton.
Introductory History of England, Vols. I. and II.: C. R. L. Fletcher.
Social and Industrial History of England, Parts I. and II.: F. W. Tickner (Arnold).

Select Statutes and Constitutional Documents: G. W. Prothero.

Constitutional Documents of the Puritan Revolution: S. R. Gardiner.

Literary and Historical Atlases of Europe, America, Africa, and Australasia: "Everyman's Library."

Longmans' Political History of England, Vols. V., VI., VII., and VIII.; *or*

Methuen's History of England in Seven Volumes, Vols. IV. and V.

Note on the Prescribed Documents.

Students are expected to study with great care the Introductions to Prothero and Gardiner, combining with them the relevant portions of the extracts in the body of the books. They are required to study in special detail the following extracts:—

Prothero—

Elizabeth—I.: 1 Eliz. cap 1; 1 Eliz. cap. 2; 5 Eliz. cap 3; 18 Eliz. cap. 3; 39 and 40 Eliz. cap. 1-5; 43 and 44 Eliz. cap. 2. II.: All. VI.: 1, 2, and 3. VII.: All. VIII.: (i.) 17, 18, 28 (*a*); (ii.) 1 and 2.

James I.—I.: 21 and 22 Jas. 1. cap. 3; 21 and 22 Jas. 1. cap. 33. II.: (i.) 4, 16; (ii.) All. III.: 1. IV.: 3 and 4. VI.: All. VII.: (ii.) All. Appendix, pp. 446 to end.

Gardiner—

I.: 8. II.: 10, 15, 19, 20, 21, 22. III.: 27, 30, 34, 35, 43, 45, 50, 53. IV.: 58, 63, 74, 81. V.: 97, 101, 102, 105.

PART II.

(*a*) English History, chiefly between 1701 and 1859. (*See Note on Documents, &c.*)

(*b*) General European History, 1815-1914.

Books Prescribed.

Introductory History of England, Vols. III. and IV.: C. R. L. Fletcher.

Student's Manual of English Constitutional History: D. J. Medley.

Select Cases, Statutes, and Documents: C. G. Robertson.

The Governance of England: S. Low.

The Last Century in Europe: C. E. M. Hawkesworth.

Methuen's History of England in Seven Volumes, Vols. VI. and VII.

Grant Robertson's Historical and Modern Atlas of the British Empire, and Historical Atlas of Modern Europe, from 1789 to 1914.

Notes on the Selected Cases, Statutes, &c.

Students are expected to study (Text and Introduction) the extracts from constitutional documents to which reference is made in the other recommended books and *particularly* the Acts forming the Clarendon Code, the Test Act, the Habeas Corpus Amendment Act, the Mutiny Act, the Toleration Act, the Bill of Rights, the Act of Settlement, the Act for the Union with Scotland, the Riot Act, the Irish Parliament Act, 40 Geo. III., c. 67 (the Legislative Union with Ireland), the Repeal of the Test and Corporation Acts, the Roman Catholic Emancipation Act, and the Reform Bill, together with the following cases:—Godden *v.* Hales; the Seven Bishops; Ashby *v.* White; the Impeachment of Henry Sacheverell; Wilkes and general warrants; Entick *v.* Carrington; Somersett's case; the Dean of St. Asaph; Wolfe Tone; Burdett *v.* Abbott; Stockdale *v.* Hansard; Bradlaugh *v.* Gossett.

VIII. CONSTITUTIONAL HISTORY AND POLITICAL SCIENCE.

PART I.

1. (*a*) The Constitutional History of England up to about 1701.
   (*b*) General Principles of Constitutional Development, as illustrated by (*a*).
   (*c*) Groundwork of Constitutional Law, as illustrated by (*a*).
2. (*a*) General History of Political Thought up to about 1701.
   (*b*) The General Theory of the State.
   (*c*) The Relation of (*a*) and (*b*) to Selected Political and Constitutional Developments of Outstanding Importance.

Books Prescribed.

Student's Manual of English Constitutional History: D. J. Medley.

Aristotle's Politics, tr. Jowett, ed H. W. C. Davis.

Select Statutes and Constitutional Documents: G. W. Prothero.

Constitutional Documents of the Puritan Revolution: S. R. Gardiner.

Introduction to the History of the Science of Politics: Sir F. Pollock.

Introduction to Political Science: Sir J. R. Seeley.
Political Theories of the Middle Age: O. Gierke, tr. F. W. Maitland.
English Political Philosophy, from Hobbes to Maine: W. Graham.
Honours students should also possess Select Charters illustrative of English History: W. Stubbs.

PART II.

1. (*a*) The Constitutional History of Great Britain and Ireland and the British Empire from 1701.
   (*b*) Detailed Treatment of a Portion of (*a*) to be prescribed by the Lecturer.
   (*c*) Comparison of Constitutional Development in Various Countries.
   (*d*) Groundwork of Constitutional Law, as illustrated by (*a*), (*b*), and (*c*).
2. (*a*) General History of Political Thought from about 1701.
   (*b*) Detailed Examination of some Modern Political Philosophies.
   (*c*) Constructive Application of Principles derived from (*a*) and (*b*).

Books Prescribed.

The Law and Custom of the Constitution: Sir W. Anson.
The Law of the Constitution: A. V. Dicey.
Select Cases, Statutes, and Documents: C. G. Robertson.
The Governments of Europe: Ogg (Macmillan).
Selected Speeches and Documents on British Colonial Policy: Keith (World's Classics, 2 vols.).

Students will also be required to display knowledge of selected portions of Keith's Responsible Government in the Dominions, and of such constitutional documents illustrative of Imperial and Foreign History as may be prescribed from time to time.

IX. ECONOMICS.

Books Prescribed.

Principles of Political Economy: C. Gide; *or*
Elementary Principles of Economics: Irving Fisher.
The Industrial System: J. A. Hobson.
Cash and Credit: D. A. Barker.
Banking and Currency: E. Sykes.
Economic Development in Modern Europe: Ogg (Macmillan).

SHORT COURSE.

Six Lectures, to include—

(*a*) Instruction in Terms and General Principles of Economics and Business Management;
(*b*) Direction of Reading; and
(*c*) Discussion of a few selected Topics.

HONOURS COURSE IN HISTORY AND ECONOMICS.

Honours students must study both divisions of the subjects as set forth above. They must attend lectures on the special study of the year subsequent to taking British History II. Additional reading for the Honours degree will be prescribed by the lecturers in tutorial classes.

Questions on General Mediæval and Modern European History will be set in the examination, and candidates for Honours should attend the special course in that subject during their second year.

They will further be required to attend lectures on General Roman and Greek History.

SCHEME SUMMARISING THE REQUIREMENTS FOR AN HONOURS COURSE IN HISTORY AND ECONOMIC SCIENCE AS TAKEN IN THREE YEARS.

First Year—

1. British History I.
2. A part of a language other than English.
3. English.

Second Year—

1. British History II.
2. Economics.
3. Ethics and Metaphysics.
4. Constitutional History and Political Science I.

Third Year—

1. Constitutional History and Political Science II.
2. British History, special study.
3. Ancient History, Half Course.

D.—MENTAL AND MORAL PHILOSOPHY, AND EDUCATION.

Professor Mayo.

X. LOGIC AND PSYCHOLOGY.

LOGIC.

Logic is taken in two parts in successive years. The first-year work is concerned mainly with deductive, the second with inductive Logic.

Text-books.

PART I.

An Introductory Logic: Creighton.
(For additional reading.)
Essentials of Logic: Bosanquet.

PART II.

Empirical Logic: Venn.
System of Logic: J. S. Mill.

PSYCHOLOGY.

Psychology is taken conjointly with Logic in two parts in successive years.

Text-books.

PART I.

The New Psychology: A. G. Tansley.
Text-book of Psychology: James.
Nervous System: Lickley (Longmans).

PART II.

Principles of Psychology: James—selected chapters.
The New Psychology: A. G. Tansley.
Physiological Psychology: McDougall.

XI. ETHICS AND METAPHYSICS.

ETHICS.

Elementary Ethics is taken conjointly with Metaphysics as a single course.

Text-books.

Prolegomena to Ethics: Green.
History of Ethics: Sidgwick.
An Introduction to Ethics: Johnstone.
(Additional for reading.)
Ethics: Dewey and Tufts.

METAPHYSICS.

The History of Philosophy from Descartes to Kant, with special reference to the English philosophers and Kant, is prescribed for study.

Text-books.

Selections from Kant: Watson.
Inquiry concerning Human Understanding: Hume.
Students' History of Philosophy: Rogers.

(Additional for reading.)

Outline of Philosophy: Watson.

XII. EDUCATION.

No student may take the course in Education unless he has previously passed in Logic and Psychology, Part I.

Theory of Education:—

Education, its Data and First Principles: T. P. Nunn.
The Making of Character: MacCunn.
The Measurement of Intelligence: Terman.

(Additional for reading.)

Education for Citizenship: Kerschensteiner.

History of Education:—

Text-book in the History of Education: Monroe.
Educational Reformers: Quick.

(Additional for reading.)

State Interference in English Education: Montmorency.

The Student should read as widely as possible the works of the outstanding writers on Education. A suitable collection of such original sources is—

Great Pædagogical Essays: F. V. N. Painter (Am. Book Co., N. Yk.).

HONOURS COURSE IN MENTAL AND MORAL PHILOSOPHY.

I. Candidates for the Degree of Bachelor of Arts with Honours in Mental and Moral Philosophy shall attend lectures and pass the examinations for the ordinary degree in Logic and Psychology, Parts I. and II., Ethics and Metaphysics, Economics, and one language other than English, Parts I. and II., before they sit for their final Honours Examination.

II. In September of the year prior to their Final Honours Examination candidates shall present a thesis upon some topic connected with their studies that shall have been previously approved by the Faculty of Arts. The merit of his thesis shall be taken into account in determining a candidate's classification in Final Honours.

III. The Final Honours Examination shall consist of papers in Psychology, Ethics, Epistemology, and Metaphysics. Candidates will be expected to satisfy the Examiners in every Department of their studies.

IV. The special studies to be undertaken by candidates for Honours shall be from time to time determined by the Faculty of Arts. In addition to the studies thus prescribed, candidates will be expected to profess special courses of reading for their Final Examination. Such special courses of reading must be approved by the Faculty of Arts.

V. The Lecturer in Philosophy shall direct the studies of candidates for Final Honours. Students of the third year shall attend such lectures as are from time to time prescribed by the Lecturer and sanctioned by the Chairman of the Faculty of Arts.

The special studies prescribed by the Faculty of Arts under Rule IV. herein for the Final Honours Examination are as follows:—

Hume: Treatise of Human Nature, Vol. I.
Kant: Selections from Kant (Watson).
Caird: Critical Philosophy of Kant, Vol. I. (to page 208).
Green: Introduction to Vol. I. of Hume's Treatise.
Ward: Naturalism and Agnosticism, Vols. I. and II.
Joachim: The Nature of Truth.
Bosanquet: Essentials of Logic.
Green: Prolegomena to Ethics.
Green: Principles of Political Obligation.
Bosanquet: Philosophical Theory of the State.
Rousseau: The Social Contract.
Maciver: Community.
James: Principles of Psychology, Vols. I. and II.
Mitchell: The Structure and Growth of the Mind.
McDougall: Physiological Psychology.

The general history of metaphysical thought from Descartes to Kant.

The Class in Greek Ethics must be attended as part of the work required for Honours in the third year of study.

E.—MATHEMATICS, PURE AND APPLIED.

Professor Priestley, Mr. Priest, Mr. Swanwick (evening).

XIII. PURE MATHEMATICS.

PART I.

Details of work.

A.

A Course of about 60 Lectures as in *B*.

A Supplementary Course of about 30 Lectures will also be given. This course should be attended by all candidates for Honours in Mathematics.

Books recommended.

Algebra: C. Smith.
Plane Trigonometry: Carslaw.
Modern Plane Geometry: Richardson and Ramsay.
Solid Geometry: Jackson.
Geometrical Conics: Caunt and Jessop.
Conic Sections: C. Smith.
Introduction to Calculus: Carslaw.

B.

A Course of about 60 Lectures on—

Plane Trigonometry.
Algebra.
Analytical Geometry of straight line and circle.
Elementary Solid Geometry.
Elementary Infinitesimal Calculus.

Books recommended.

Plane Trigonometry: Carslaw.
Analytical Geometry (straight line and circle): Loney.
School Geometry, Part VI.: Hall and Stevens.
Introduction to Calculus: Carslaw.

PART II.

A Course of about 60 Lectures on—

Differential and Integral Calculus.
Elementary Differential Equations.
Properties of Conics and other Special Curves.

Book recommended.

Infinitesimal Calculus: Lamb.

XIV. APPLIED MATHEMATICS.

PART I.

A Course of about 60 Lectures on—
Elementary Dynamics, Statics, and Hydrostatics.

Book recommended.

Elementary Dynamics of Particle and Rigid Body: Barnard.

PART II.

A Course of about 60 Lectures on—
Dynamics of a Particle.
Statics and Dynamics of a Rigid Body.
Hydrostatics.

Book recommended.

Analytical Mechanics: E. H. Barton.

HONOURS COURSE IN MATHEMATICS.

Tutorial Classes will be held three times a week for second-year students proceeding to a degree with Honours in Mathematics.

These classes will read—
Elementary Analytical Geometry of Three Dimensions.
Differential Equations.
Differential and Integral Calculus.
Projective Geometry.
Dynamics of a Particle.

Third Year.

Classes will be held daily for third-year students in the school of Mathematics.

These classes will read—
Higher Analytical Geometry.
Mathematical Analysis.
Theory of Attractions.
Rigid Dynamics.
Hydrodynamics.

During the first and second term of each year a Course of about 20 Lectures on Spherical Trigonometry and Astronomy will be given.

F.—BIOLOGY, CHEMISTRY, GEOLOGY AND MINERALOGY, AND PHYSICS.

See Faculty of Science, Courses XVI, XVII, XVIII, XIX, and XX.

FACULTY OF SCIENCE—B.Sc. DEGREE.

A.—MATHEMATICS PURE AND B.—MATHEMATICS APPLIED.

See Faculty of Arts, Courses XIII. and XIV.

C.—BIOLOGY.

Professor Johnston and Mr. Cayzer.

Biology I. includes Botany I. and Zoology I.

Biology II. includes Zoology II. and Botany II.

Biology III. includes Zoology III. and Botany III.

XV. BOTANY.

PART I.—First Year.

The Course of about 20 Lectures includes the study of the Main Classes of Thallophytes (Bacteria, Algæ, Fungi, Lichens); Bryophytes (Mosses and Liver-worts); Pteridophytes (Ferns, Club Mosses, etc.); and Spermaphytes (Gymnosperms and Angiosperms); as well as the study of Plant Histology and Elementary Physiology.

In a short course on Systematic Botany, some of the more common orders of Angiosperms are dealt with.

PRACTICAL BOTANY.

Examination in detail of typical members of the more important classes.

Simple methods employed in the preparation of objects for microscopic examination.

PART II.—Second Year.

[TO BE TAKEN AS PART OF BIOLOGY II.]

About thirty Lectures, as well as a practical course on the Cryptogams and Gymnosperms, with a study of about fifteen orders of Angiosperms.

PART III.—Third Year.

[TO BE TAKEN AS PART OF BIOLOGY II.]

About thirty Lectures, as well as a practical course on the Anatomy and Physiology of the Angiosperms, with a study of about twenty-five orders of Angiosperms.

Additional work for Honours students.

XVI. ZOOLOGY.

PART I.—First Year.

About 40 Lectures.

The following Groups of Animals are dealt with:—Protozoa, Sponges, Coelenterates, Flatworms, Roundworms, Echinoderms, Annulates, Arthropods, Molluscs, Ascidians, Amphioxus, Vertebrates.

PRACTICAL ZOOLOGY.

Typical members of the above Groups are studied in the practical class.

PART II.—Second Year.

A General Course on the Invertebrata.

PART III.—Third Year.

(*a*) The Chordata, including a general account of Vertebrate Embryology and Comparative Anatomy.

(*b*) A Course of Work on Vertebrate Histology and Pathology.

(*c*) A Course of Lectures and Practical Work on one or more selected groups of Invertebrata.

(*d*) A Course of about 20 Lectures on Cytology.

(*e*) A short Course of about ten Lectures on Variation, Heredity, &c.

The above Course—(*a*) to (*e*)—is for students taking Biology III. as a full third-year subject. For those who take two subjects (one being Biology III. in part) in their third year, the Course in Zoology will consist of (*a*) and (*b*) only.

Laboratory Work.

First Year—

Not less than four hours weekly for three terms.

Second Year—

Not less than nine hours weekly for three terms.

Third Year—

Not less than eighteen hours weekly for three terms if Biology be taken as the only subject.

Not less than nine hours weekly for three terms if it be taken as one of two third-year subjects.

Field Work.

Excursions are held periodically for all students.

B.SC. HONOURS IN BIOLOGY.

Candidates will be expected to possess a thorough knowledge of the work of the three years; to have read some of the literature dealing with Darwinism, Heredity, Evolution, and Distribution.

In their third year, candidates for Honours will carry out the work (*a*) to (*e*) set out for Zoology, Part III., and the work set out under Botany, Part III.

Books recommended.

For First-year Students.

Botany: Lowson's Text-book of Botany.

Zoology: Parker and Haswell's Manual of Zoology, Lloyd Morgan's Animal Biology, or L. A. Borradaile's Manual of Elementary Biology.

Practical Zoology: Marshall and Hurst's Practical Zoology.

For Second-year Students.

Botany—

Scott: Flowerless Plants.
Flowering Plants.

Coulter, Barnes, and Cowles: Text-book of Botany, Vol. I. (for reference).

Stopes: Ancient Plants.

Zoology—

Parker and Haswell: Text-book of Zoology, Vol. I.

Thompson and Geddes: Evolution.

Judd: The Coming of Evolution.

For Third-year Students.

Botany—

Scott: Flowering Plants.

Darwin and Acton: Physiology of Plants.

Zoology—

Parker and Haswell: Text-book of Zoology, Vol. II.

Marshall: Vertebrate Embryology.

Willey: Convergence in Evolution.

Schäfer: Essentials of Histology.

Honours.

Botany—

Haberlandt: Physiological Plant Anatomy.

Reynolds Green: Vegetable Physiology.

Coulter, Barnes, and Cowles: Text-book of Botany, Vols. I and II.

Scott: Studies in Fossil Botany.

Harvey-Gibson: Outlines of the History of Botany.

Zoology—

Darwin: Origin of Species (Murray).
Darwin: Descent of Man (Murray).
Wallace: Island Life (Macmillan), Chapters 1-5, 21, 24.
Thomson: Heredity (Murray).
Willey: Convergence in Evolution.
Lyddeker: A Geographical History of Mammals (Australian and South American sections).
Geoffrey Smith: Primitive Animals (Cambridge University Press).
Judd: The Coming of Evolution (Cambridge University Press).
Seward (editor): Darwin and Modern Science (Cambridge University Press), Chapters 2 to 8, 10 to 17.
Walter: Genetics, an Introduction to the Study of Heredity (Macmillan, New York).
Wilson: The Croonian Lecture, 1914—The Bearing of Cytological Research on Heredity.

The larger works of reference are contained in the Departmental Library.

D.—CHEMISTRY.

XVII. CHEMISTRY.

Professor Steele, Dr. Bagster, Mr. Jones, and Mr. O'Connor.

Lecture Courses.

Faculty of Science.

PART I.—First Year.

The Course comprises—

(*a*) A discussion of the fundamental laws of Chemistry, based upon the study of the chief non-metals.
(*b*) A discussion of the laws governing the behaviour of aqueous solutions.
(*c*) A systematic study of the chief metals, based upon the Periodic Law.
(*d*) A short Course in Elementary Organic Chemistry.

PART II.—Second Year.

(*a*) A Course of Forty Lectures on General Physical Chemistry.
(*b*) A Course of Twenty-five Lectures on Systematic Inorganic Chemistry.
(*c*) A Course of Twenty-five Lectures on Systematic Organic Chemistry.

PART III.—Third Year.

(*a*) A Course of Twenty Lectures on Physical Chemistry.

(*b*) A Course of Thirty Lectures on Systematic Organic Chemistry.

(*c*) An Introductory Course of Twenty Lectures on Applied Chemistry.

(*d*) A Course of Ten Lectures on Inorganic Chemistry.

Students reading for the Honours Degree will take all the above courses. In addition they will attend such special courses of lectures as are provided, and engage in such courses of reading as are prescribed.

Department of Applied Chemistry.

PART I.—First Year.

As for students in Pure Science.

PART II.—Second Year.

As for students in Pure Science.

PART III.—Third Year.

Students in Applied Chemistry will attend all lectures prescribed for pass students in Pure Science. They will also attend such portions of the Courses for Honours Students as may be prescribed.

PART IV.—Fourth Year.

(*a*) A Course of Lectures on the Principles Underlying the Selection of Process and the Design of Plant.

(*b*) A Course of Lectures on Chemical Technology dealing with—

(*a*) Processes;

(*b*) Materials.

Faculty of Engineering.

PART I.—First Year.

Students will attend the course as prescribed for the first year of Science.

PART II.—Second Year.

Students in the first term of their second year will attend part of Course (*a*), not exceeding Twenty Lectures.

They will also attend a special course for Engineering students, which will be delivered during the third term of their second year, and will be continued and completed in their third year.

Laboratory Work.

Faculty of Science..

First Year—Four hours per week.

Second Year—Nine hours per week.

Third Year—

Pass Students—A minimum of twelve hours per week.

Honours Students—A minimum of eighteen hours per week.

Students in Applied Science—A minimum of eighteen hours per week.

Fourth Year—

Students in Applied Science—A minimum of eighteen hours per week.

Faculty of Engineering.

First Year—Four hours per week.

Second Year—Three hours per week.

Third Year—Fifty hours distributed over the first and second terms.

Books prescribed or recommended for Students in the Department of Chemistry.

For First Year Students—

Alexander Smith: Inorganic Chemistry.

Bruce and Harper: Practical Chemistry;

or, Caven: A Short System of Qualitative Chemistry.

Students who have not studied before entering on their University course are advised to provide themselves in addition with one of the simpler books on elementary chemistry, such as—

Perkin and Lean: Introduction to the Study of Chemistry.

Donington: A Class Book of Chemistry.

Hedley and Wilson: A School Chemistry.

For Second and Third Year Students—

Caven and Landor: Systematic Inorganic Chemistry.

Bernthsen: Organic Chemistry;

or, Wade: An Introduction to Organic Chemistry;

or, Perkin and Kipping: Text-book of Organic Chemistry.

James Walker: Text-book of Physical Chemistry.

Students contemplating an Honours Course are advised to use the first two volumes of—

Lewis: Text-book of Physical Chemistry; and

Cohen: Systematic Organic Chemistry for advanced students (3 vols.).

For Third Year Engineering Students—

Sexton: Chemistry of Materials of Engineering.

For Laboratory Work—Students completing a three years' course of Chemistry must provide themselves with a copy of—

Treadwell: Analytical Chemistry (two vols.).

Sudborough and James: Practical Organic Chemistry.

F. E. Weston: The Detection of Carbon Compounds.

Students who are studying Chemistry for two years only may use—

Newth: Analytical Chemistry,

or any other approved text-book.

A number of reference books are provided for the use of students in the Library of the Chemistry Department. These books must on no account be removed from the Library.

XVIII. GEOLOGY AND MINERALOGY.

Professor Richards and Mr. Bryan.

PART I.

For Arts, Science, and Engineering Students.

Lectures.—Seventy Lectures on Physiography, Elements of Crystallography, Rock-forming Minerals, Petrology, Tectonic Geology, Elements of Palæontology, the Principles of Stratigraphy as indicated by the Geology of Australia, and the Economic Geology of Clays, Building Stones, and Road Metals.

Laboratory Practice.—Three hours per week in studying Crystals, Rock-forming Minerals, Common Ores and Vein Stones, Rocks, Elementary Fossils, Geological Maps and Sections.

Field Work.—Approximately Ten Excursions during the year, including two of several days' duration.

PART II.

Lectures.—Three Lectures per week on Crystallography, Optical Mineralogy, Petrology, Economic Geology, Palæontology, Stratigraphy, and the Principles of Field Work.

Laboratory Practice.—Seven hours per week in studying Crystals, Minerals, Rocks (both microscopically and megascopically), Blowpipe Analysis of Minerals, Palæontology, Field Mapping, and the Preparation of Rock Sections.

Field Work.—As prescribed.

Special Courses.—

(*a*) Fourth-year Applied Science students will attend a course of thirty Lectures on Economic Geology.

(*b*) Ten Lectures to Third-year Civil Engineering students on Geological Problems affecting Engineering.

Lectures.— PART III.

Pass Students—At least Sixty Lectures on Optical Mineralogy, Petrology, Palæontology, General and Economic Geology.

Honours Students—One hundred and twenty Lectures, as follows:—

Forty Lectures on Optical Mineralogy and Petrology;
Forty Lectures on Palæontology;
Forty Lectures on General and Economic Geology.

Essays.—

During the year Honours students will be required to submit two Essays on General Geological Topics as prescribed.

Laboratory Practice—

Pass Students—At least nine hours per week.

Honours Students—At least eighteen hours per week.

Field Work—As prescribed.

Text-books.

PART I.

Faculties of Arts and Science and Engineering—

Introduction to Geology: W. B. Scott (Macmillan and Co.);
or, Geology (Shorter Course): Chamberlin and Salisbury (John Murray).
Text-book of Petrology: F. Hatch (Sonnenschein);
or, Petrology for Students: A. Harker (Cambridge University Press).
Elements of Mineralogy: F. Rutley (Murby and Co.), 1916 edtn.

Faculty of Science—

Palæontology: H. Woods (Cambridge University Press).

PART II.

Economic Mineralogy: T. Crook (Longmans, Green, and Co.).
Australasian Fossils: F. Chapman (Geo. Robertson).
Minerals in Rock Sections: Luquer (Van Nostrand Co.).

PART III.

Igneous Rocks, Vol. I.: Iddings (Wiley and Sons);
or, Natural History of Igneous Rocks: A. Harker (Methuen).
Rock Minerals: Iddings (Wiley and Sons).
Text-book of Palæontology, Vol. I.: Zittel (Macmillan and Co.).

XIX. PHYSICS.

Professor Parnell, Mr. Lusby, and Mr. Rimmer.

PART I.

Lectures.

A Course of Three Lectures weekly on Physical Measurements, Mechanics and Properties of Matter, Heat, Magnetism and Electricity, and Light.

Practical Work.

Three hours per week in the Laboratory.

Text-books recommended.

Elementary Mechanics: Lodge.
Heat: Draper.
Magnetism and Electricity: Hadley.
Light: Glazebrook.
Practical Physics: Bower and Satterly.

PART II.

For Science and Engineering Students.

Courses of one Lecture a week each on—

General Properties of Matter and Heat;
Magnetism and Electricity.

Additional for Science Students.

A Course of one Lecture a week on—

Light, Sound, and Heat.

Practical Work.

For Engineering Students: Three hours per week in the laboratory in first and third terms. Six hours per week in second term.

For Science Students: Six hours per week in the laboratory.

Text-books recommended.

Properties of Matter: Poynting and Thomson.
Heat: Poynting and Thomson.
Sound: Poynting and Thomson.
Electricity and Magnetism: Starling.
Light: Edser.
Practical Physics: Glazebrook and Shaw.

PART III.

Lectures—

For Pass Students—A course of about seventy Lectures.

For Honours Students—A course of about one hundred and twenty Lectures.

Laboratory Work—

For Pass Students—Nine hours per week.

For Honours Students—Eighteen hours per week.

Courses of reading will be prescribed for both Pass and Honours Students.

FACULTY OF ENGINEERING—DEGREE OF B.E.

Professor Hawken, Dr. Boyd, Mr. Ross, Mr. Munro, and Mr. Walker.

XX. DESCRIPTIVE GEOMETRY.

FIRST YEAR.

A Course of 20 Lectures and 60 Hours' Practical Work in Drawing Office.

Scales, Constructions relating to Straight Lines, Polygons, Circles, and Circular Arcs, Conic Sections, Cycloidal Curves, Involutes and Spirals. Principles of Orthographic Projection. Problems on Straight Lines and Planes. Projections of Solids. Projection from Oblique Planes. Interpenetration of Solids. Development of Surfaces. Construction of Paper Models. Isometric and Oblique Projection. Principles of Perspective Drawing.

Text-book.

The Theory of Engineering Drawing (Adler);
or, Practical Descriptive Geometry (Smith).

Reference Books.

Descriptive Geometry (Moyer).

Practical Plane and Solid Geometry for Advanced Students (Harrison and Baxandall).

XXI. ENGINEERING DRAWING AND DESIGN.

PART I.—FIRST YEAR.

A Course of 30 Lectures.

Object of Machine Design. Mechanical Development and Specification. Theory and Production. Calculations. Notes and

Records. Method of Design. Sketches. Analysis of Construction and Forces. Theoretical Design. Practical Modifications. Plans and Specifications.

Constructive Mechanics. Forces and Moments. Beams. Diagrams of Bending Moment and Shearing Forces. Cantilever. Concentrated and Distributed Load. Beam supported at ends—any arrangement of loads. Tension. Compression and Torsion. Discussion of formulæ— $f = \frac{P}{A}$: $M = \frac{fI}{y}$. Working Stresses.

Materials—their uses and properties. Lubrication.

Fastenings—Bolts, Studs, &c. Keys, Pins, and Cotters. Shafts and Couplings. Friction Clutches. Journals. Bearings. Belts. Pulleys. Toothed Wheels. Riveted Joints. Pipes and Flanges.

Drawing Office—A Course of 150 Hours.

Lettering and Printing. Drawing of Details from Working Drawings. Sketching of Machine Parts. Preparation of Tracings

Text-books.

Machine Design (Griffin).
Machine Design, Construction, and Drawing (Spooner).

Reference Books.

Mechanical Engineering (Lineham).
Mechanical Engineer's Pocket Book (Kent).

PART II.—SECOND YEAR.

Drawing Office—A Course of 210 Hours.

Designing and Making Complete Working Drawings of Details, such as—Crane Hook, Plummer Block, Stop and Safety Valves, Cocks, Thrust Bearings, Wall Brackets, &c.

Complete Design of a Simple Vertical or Horizontal Steam Engine covering general arrangement and detail drawings.

The Lecture Courses for the above work are included in the Courses in Heat Engines I. and Applied Mechanics.

PART III.—THIRD YEAR.

Drawing Office—300 Hours.

Design and Complete Working Drawings of a Small Structure, such as a Travelling Gantry, Lifting Footbridge, Wharf Crane, Tower for Small Suspension Bridge, Roof Truss, Plate Web Girder,

The student is expected to acquire a working knowledge of construction and drawing of details of joints and members for working conditions, the types of examples set having this object rather than the compilation of stress sheets.

The Lecture Course is included under Civil Engineering, Part I.

PART IV.—FOURTH YEAR.

A.—Civil Engineering.

The Design and Specification of an Engineering Scheme (or portion of such), such as Road or Railway Bridge, Filter Beds for Water or for Sewage, Dry Dock, Aeroplane Shed, High Building, &c.

The Lecture Course is included under Civil Engineering.

B.—Mechanical and Electrical Engineering.

The Design of Mechanical and Electrical Machinery and the lay out of Power Plants and Generating Stations and Preparation of Specifications.

XXII. APPLIED MECHANICS.

SECOND YEAR.

A Course of 50 Lectures.

(*a*) *Mechanics*: Constrained Motion, Relative Motion, Instantaneous or Virtual Centres. Centrode and Axode, Relative Velocities of Points and Bars in Mechanisms, Steam Engine Mechanism and its Inversions, Principle of Virtual Velocities applied to Mechanisms, Velocity and Acceleration Curves, Velocity Diagrams. Toothed Gearing, Wheel Trains, Epicyclic Trains.

(*b*) *Dynamics of the Steam Engine*: Influence of Short Connecting Rods, Correction of Indicator Diagrams for Inertia, Pressure on Crankpin, Cushioning, Twisting Moment Diagrams, Twisting Moment on Crankshaft, Flywheels, Coupling Rods, Connecting Rods. Balancing. Friction, Journals and Bearings, Lubrication. Governors.

(*c*) *Elasticity*: Stress and Strain, Characteristics of Materials. Shearing Forces, Compound Stresses. Strength of Cylinders under Internal Pressure, Lame's Theory.

(*d*) *Beams*: Bending Moments and Shearing Force Diagrams, Modulus of Section, Neutral Axis, Unsymmetrical Sections, Sections of Uniform Strength, Slope and Deflection of Beams. Combined Bending and Direct Stresses.

(*e*) *Columns:* Long and Short Columns, Euler's Formula, Empirical Formulæ.

(*f*) *Torsion*: General Theory, Shafts, Polar Modulus for Circular Sections, Strength of Shafts in Torsion, Twisting of Shafts, Torsionmeters. Whirling of Shafts. Springs.

APPLIED MECHANICS LABORATORY.

A Course of 60 Hours.

Measurements of Efficiency and Mechanical Advantages of Simple Machines, such as Screwpress, Pulley Block, Differential Pulley, Worm Wheel Crab, and Hydraulic Jack. Measurements of Friction Coefficients. Energy of Flywheel. Stresses in Simple Framed Structures. Simple Hydraulic Measurements. Fluid Friction. Characteristics of Lubricants. Calibration of Gauges. Balancing Four Crank Engine. Tension and Compression Tests of Small Specimens.

Text-book.

Goodman: Mechanics Applied to Engineering.

Reference Books.

Reuleaux: The Constructor.
Kennedy: Mechanics of Machines.
Heat Engines (Inchley).
Church: Mechanics of Engineering.
Cotterill: Applied Mechanics.
Dalby: Balancing.
Warren: Engineering Construction in Steel and Timber.

XXIII. HEAT ENGINES.

PART I.—SECOND YEAR.

A Course of 60 Lectures and 80 Hours' Laboratory Practice.

Lecture Course.

Short History of the Development of Heat Motors. Elementary Theory of Heat Engines. Laws of Thermodynamics. Cycle of Operations of the Working Substance in a Heat Engine. Laws of Permanent Gases. Work Done by an Expanding Fluid. Adiabatic Expansion. Isothermal Expansion. Carnot's Cycle of Operations.

Efficiency of Carnot's Cycle. Reversed Carnot's Cycle. Efficiency of a Perfect Heat Engine. Hot Air Engine Cycle.

Properties of Steam. Elementary Theory of the Steam Engine. Rankine's Cycle. Indicators. Indicator Diagrams. Hypothetical Diagrams. Diagram Factor. Cylinder Condensation. Jacketing. Ratio of Expansion. Two and Three Stage Expansion. Combined Diagrams. Slide Valves and Valve Setting. Valve Diagrams (Zeuner, Wave Form). Reversing Gears. Expansion Valves.

Design of a Compound Steam Engine in Detail. Sizes of Cylinders for a given Indicated Horse Power. Crankshafts. Connecting Rods. Piston Rods. Pistons. Glands and Stuffing Boxes. Cylinders. Ports and Passages. Valves. Covers. Bed Plates and Framings. Bearings. Eccentrics, &c.

The Steam Turbine. Impulse Types. Reaction Types. Flow of Fluid through Nozzles. Angles of Blades and Nozzles. Exhaust Turbines.

The Testing of Steam Engines and Boilers for Efficiency. Fuels. Combustion. Boilers (Fire and Water Tube). Leading Types and their Relative Suitability for various purposes. Transmission of Heat through Plates. Grate Surface. Heating Surface. Details of Construction. Riveted Joints. Stayed Surfaces. Stays. Furnaces. Chimneys. Fittings and Mountings. Board of Trade and Lloyd's Requirements. Maintenance and Operation.

Mechanical Refrigeration. Compressors. Air Compressors. Cold Air Engines.

Internal Combustion Engines. Cycles of Operation. Leading Types of Gas Engines. Suction Gas Plants. Producers. Oil Engines (for refined and crude oils). Petrol Engines. Power Ratings. Testing of Gas and Oil Engines for Efficiency.

Laboratory Course.

Drawing the Valve Diagrams and Setting the Valves of a Simple Engine with D and Piston Type Valve. Meyer Expansion Valve. Link Motions.

Use of Indicator and Brakes. Tests of Steam and Gas Engines for Mechanical Efficiency.

Preliminary Tests for Evaporative Capacity of Boilers. Steam Consumption Tests of an Engine.

Text-books.

Heat Engines (Inchley).
Steam and other Engines (Duncan).
Heat Engines (Garratt).
Mechanical Engineering (Lineham).
Pocket Book of Marine Engineering Rules and Tables (Seaton and Rounthwaite).

Reference Books.

The Steam Engine and other Heat Engines (Ewing).
Applied Thermodynamics (Ennis).
History of the Steam Engine (Thurston).
Steam Tables (Marks and Davis).
Steam Boilers (Parsons).

PART II.—THIRD YEAR.

A Course of 60 Lectures with Laboratory Practice.

Advanced Theory of Heat Engines. Thermodynamic Surface. Pressure Volume Path of Perfect Gases. Entropy. Entropy Temperature Diagrams. Mollier's Diagrams for Steam (Entropy—total heat pressure—total heat). Conditions affecting Economy. Cyclical Flow of Heat in the Metal Cylinder Walls of Heat Engines. Detailed Consideration of Heat Losses. Standard Methods of Conducting Engine and Boiler Trials. Detailed Analysis of Data obtained from Trials.

Boiler-house Plant. Further Details with regard to Boilers. Superheaters. Economisers. Flues and Chimneys. Forced Draught. Fuel and Gas Analysis. Smoke Abatement. Pressure. Draught and CO_2 Recorders. Mechanical Stokers. Feed Pumps. Injectors. Piping Arrangements.

Further Consideration of Types of Steam Engines. Corliss Valve Gear. Drop Valve Gear.

Further Consideration of Steam Turbines. Conversion of Heat into Velocity. The Turbine Cycle. Practical Losses. Effect of Vacuum and Superheat. Rate of Flow. Efficiency in directing Velocities. Design of Impulse and Reaction Turbines. Commercial Types and Applications.

Jet Condensers. Surface Condensers. Tube Surface. Surface Section Ratio. Cooling Towers. Evaporative Condensers. Air Pumps. Wet and Dry Systems. Types (Edwards, Leblanc, Kinetic, &c.).

Mechanical Refrigeration. Air Machines. Vapour Compression Machines. The Cycle. Choice of Fluid. Tonnage Rating. Compressors—various types of machines—absorption system.

Compressed Air. The Cold-air Engine. Cycle. Temperature Fall. Preheaters. The Compressor. Cycle. Form of Compression Curve. Jackets. Multi-Stage Compression. Intercooling. Relation of Engine and Compressor. Losses. Efficiency. Design of Compressor. Commercial Types.

Internal Combustion Engines. Fuels. Gas Producers (Pressure and Suction). Action in the Producer. Producer Efficiency. Comparison of Gas Engine Cycles. Mixture. Compression. Ignition. Expansion. Scavenging. Standard Reference Diagram. Diagram Factor. Principles of Design and Efficiency. Governing. Commercial Internal Combustion Engines. Humphrey's Internal Combustion Pump. Results and Analysis of Tests.

Text-books.

Heat Engines (Inchley).
Applied Thermodynamics for Engineers (Ennis).
Gas Engine Design (Lucke).

Books for Reference.

Manual of the Steam Engine (Thurston).
Marine Engines and Boilers (Bauer and Robertson).
The Steam Turbine (Neilson).
Modern Refrigerating Machinery (Lorenz, Pope, Haven, and Deane).
Internal Combustion Engines (Carpenter and Diederichs).
Compressed Air (Hiscox).
The Gas, Petrol, and Oil Engine (D. Clerk).

XXIV. CIVIL ENGINEERING.

INCLUDING MATERIALS TESTING.

PART I.—THIRD YEAR.

70 Hours' Lectures and 45 Hours' Laboratory.

The course, which includes Materials, Structures, and General Construction, is to be taken by all students in each of the departments—Civil, Mining, Mechanical and Electrical.

More advanced and exhaustive treatment is reserved for Fourth Year Civil Engineering.

When the demand arises, it is hoped that Specialist Courses in Civil Engineering may be arranged for a Fifth Year in the several branches: Structures, Railways, Hydraulic and Sanitary, Higher Surveying.

Materials.—Investigation of strains and stresses, tensile, compressive, bending, torsion; fundamental formulæ and measurements. Properties of cast iron, wrought iron, steel, alloys, stones, limes, mortars, brick, cement, concrete, timber (especially Australian), other engineering materials.

Various tests and testing machines, experimental data, average values, and modifications to be expected, micro-photography. Laboratory practice supplemented by study of standard results.

Structures.—A knowledge of Engineering Mechanics covered by the second year syllabus is assumed. Students are expected to become familiar with the principles of theory and design of the more simple structures, and to acquire a thorough knowledge of design of details of members and joints; also, to practise the drawing up of specifications and estimates of costs.

Beams and Girders.—Position of moving loads for maximum bending moment and for maximum shear, moment of resistance, neutral axis, modulus of rupture, distribution and intensity of shear. Factors of safety, working stresses. Sizes and shapes to resist various stresses. Joints and connections, general features and details of design. Graphical and analytical methods of analysis. Stiffness of beams. Beams of uniform strength. Introduction to continuous girder theory and design.

Framed Structures.—Analysis of loads, dead load, wind and other live loads, conventional assumptions; empirical and other formulæ.

Stresses in members, outline summary of methods of investigation, graphic methods, analytic methods. Various types of roof and other trusses, trestles, bracing, three hinged arches; methods suited to each. Sizes and sections best adapted for conditions imposed.

Tension members, compression members, design of joints pin and riveted: a short investigation of theory and design of columns, various formulæ.

Deflection of trusses, effect of shape on stiffness.

Reinforced Concrete.—An elementary treatment of principles, experimental data, design of beams and columns.

Masonry and Monolithic Structures.—Definitions, fundamental theory of internal stress, limiting pressures, ellipse of stress, earth pressure, water pressure. Design of small dams, weirs, arches, tunnels, piers, retaining walls.

Foundations.—Preliminary tests required, safe loads in various strata, tests and preliminary investigations; principles of construction in firm and in heavy ground; foundations for machinery; piles, grills, coffer dams, caissons.

General Construction.—An introductory course in several branches. Students are expected to do the reading of descriptive matter on lines indicated in lectures; also, to keep in touch with current engineering literature, and maintain a system of card indexing with regard to their reading.

Roads.—Various types in country and city; principles of location, ruling grades, tractive resistance, construction, durability of coverings used; provisions for drainage, principles of maintenance.

Railways.—Principles of location; estimates of revenue and maintenance; earthwork, drainage, permanent way; methods of working to ensure safety; interlocking signals; locomotive traction; types of locomotives.

Water Supply and Sanitary Engineering.—(Flow of water as applying to water supply and sewerage, pumping machinery, &c., are treated under "Hydraulics.")

Sources of supply above and below ground; amount of water required for various purposes; reservoirs; construction of dams, earth, masonry; headworks, filter beds, theory and design; distribution works, pipe lines and connections, conduits; influence of water supply on health.

Collection and disposal of sewage; sewage farms, discharge into streams or ocean, septic tanks; refuse destructors.

Harbours and Docks.—Harbour requirements, river mouths, maintenance of depth, effect of waves and tides; construction of breakwaters; foundations, materials; description of various harbours.

Construction of docks; various appliances, machinery and materials, dock walls, dock entrances, graving and repairing docks, jetties, wharves, piers.

Text-books.

Andrews: "Theory and Design of Structures."

Vernon-Harcourt: "Civil Engineering as applied to Construction."

Reference Books.

Warren: "Engineering Construction in Steel and Timber," vol. I.
Raymond: "Elements of Railroad Engineering."
Waddell: "De Pontibus."
Ketchum: "Steel Mill Buildings."
Johnson: "Materials of Construction."
Fidler: "Construction in Mild Steel."

For more detailed and advanced study, see list under "Civil Engineering II."

PART II.—FOURTH YEAR.

For Students in Civil Engineering only. During this year the student is expected to complete a thesis on an approved subject or a design in construction; encouragement is given, within limits, to original and specialised work.

It is hoped that short courses of lectures by specialists in several of the branches may be arranged.

Instruction will be carried on by the Seminar system which may include formal lectures, but which will mainly endeavour to guide students' reading and practical work, and to fix and amplify the students' knowledge by discussion.

Students are required to read engineering journals and scientific papers bearing on the subjects treated, and to record their work by means of card indexing.

Materials and Structures.—Results of recent research, micro-photography of metals, more detailed treatment of strain and stress —redundant members—influence lines.

Higher Structures.—Arches without hinges, two-hinged arches, braced arches, suspension bridges, continuous girders, swing bridges, long-span bridges; modern loading and treatment; high buildings; erection stresses. Estimates and costs of work.

Reinforced Concrete.—Various applications, pipes, reservoir walls, dock walls, buildings, foundations, advanced theory and design.

General Construction.—Bridge piers, location, economic distribution; special foundations, coffer dams, open caisson, cribs, cylinders, deep foundations, methods of sinking, open cribs, dredging, pneumatic caisson, air locks. Theory and practice of pile foundations, screwed piles.

High dam design, curved dams; retaining walls (theory of earth pressure). Masonry arches, definitions, joints of rupture, elastic theory, methods of design, description of various existing types.

Roads.—The Good Road Problem, economy of proper alignment and construction, comparison of various coverings, road machinery; various types of drainage openings, principles of maintenance, traffic data. Pavements, drainage foundations, Australian and foreign practice, macadam, asphalt, brick, pitching, wood.

Tramway.—Types of traction, construction details, financial data, modern types.

Railways.—More detailed study of location; limiting economy of grades, curves, various gauges and types; train resistance; ruling grade; rolling stock and permanent way for various kinds of traffic; points and crossings, interlocking, signals, maintenance. Light railways, narrow-gauge railways, rack and other steep-grade railways.

Water Supply and Sanitary Engineering.—Necessity of water service; statistics of requirements and effect on public health; sources of supply, methods of collection, detail investigation of design and headworks and distribution works, measurement of supply. Systems of sewerage, conduit design, details of construction, subsoil drainage, disposal of sewage, disposal of garbage, destructors.

Rivers, Harbours, and Docks.—Action of rivers; measurement of discharge, protection of banks; locks, weirs, conservation of water, outlet works, training walls; problems in design; description of various harbours; materials used in construction of works; action of winds, waves, tides; breakwaters, dredging, lighting, coast protection; dock walls, entrances, dock gates, dock machinery, graving docks, wharves.

Canals, Irrigation.—Navigation canals, irrigation canals, description of locks and lock machinery; inclines, lifts; irrigation data, principles of irrigation, duty of water. Examples in foreign countries and in Australia.

Reference Books.

Warren: "Engineering Construction," vol. II.
Morley: "Theory of Structures," "Strength of Materials."
Johnson Bryan and Turneaure: "Modern Framed Structures."
Patton: "Treatise on Civil Engineering."
Baker: "Masonry Construction."

Patton: "Practical Treatise on Foundations."
Cunningham: "Harbour Construction."
Colson: "Notes on Dock and Dock Construction."
Moore and Silcock: "Sanitary Engineering."
Tratman: "Railway Track and Track Works."
Wellington: "Railway Location."
Turneaure and Russell: "Public Water Supplies."
Wilson: "Irrigation Engineering."
Buckley: "Irrigation Works in India."
Turneaure and Maurer: "Principles of Reinforced Concrete."
Marsh and Dunn: "Reinforced Concrete."
Byrne: "Highway Construction."
Gillette: "Handbook of Costs Data."
Merriman: "Civil Engineer's Pocket Book."
Inst. C.E.: "British Standard Specifications."
Hool: "Reinforced Concrete Construction."
Hool and Johnson: Engineers' Handbook.
Metcalfe and Eddy: "Modern Sewerage Practice."

XXV. HYDRAULICS.

PART A.—THIRD YEAR.

FOR STUDENTS IN ALL BRANCHES.

A Course of 30 Lectures and 45 Hours' Laboratory Practice.

Part I—*Lecture Course.*

Fluids at Rest.—Intensity of pressure:—Pressure at any point in a fluid. Fluids at rest with free surface horizontal. Pressure head. Gauges.

Floating Bodies.—Conditions of equilibrium—Archimedes' Principle. Centre of buoyancy. Stability. Metacentre, stability of ships.

Fluids in Motion.—Steady motion. Stream-line motion. Definitions. Bernouilli's Theorem. Venturi meter. Extension of Bernouilli's Theorem.

Flow of Water through Orifices and over Weirs.—Coefficients. Various types of orifices. Notches and weirs. Derivation of equations. Thomson's principle of similarity. Empirical constants. Various forms of weirs. Recent research.

Flow through Pipes.—Losses. Hydraulic gradient. Hydraulic mean depth. Slope. Empirical formulæ.

Hydraulic Machines.—General: Impact of water on vanes. Water wheels. Turbines—reaction turbines—outward, inward, and axial flow. Design of vanes and blades. Calculation of losses and efficiency. Application of Bernouilli's Equations. Regulation of turbines. Choice of turbines. Impulse wheels. Pelton wheels.

Pumps.—Reciprocating pumps, plunger type and ram type. Centrifugal pumps and turbine pumps—general considerations, forms of vanes—design for a given discharge. Centrifugal head impressed on water. Losses in pumps. Efficiency of centrifugal and turbine pumps. Hydraulic ram. Lifting water by compressed air.

Internal Combustion Pumps.—Principles of action and general description of existing types.

Laboratory Practice.

Calibration of triangular and rectangular notches. Deduction of constants for various forms of orifices under various heads. Tests of centrifugal pumps. Test of Pelton wheel. Calibration of water meters. Tests of Francis turbine. Tests of reciprocating pumps, ram and plunger type. Flow of water in pipes and in an open channel.

Text-book.

Lea: "Hydraulics."

Reference Books.

Unwin: "Treatise on Hydraulics."
Merriman: "Treatise on Hydraulics."
Bovey: "Hydraulics."
Gibson: "Hydraulics."
Church: "Hydraulic Motors."
Butler: "Modern Pumping and Hydraulic Machinery."

PART B.—FOURTH YEAR.

For Students in Civil Engineering.

A course of 10 Lectures and 30 Hours' Laboratory and Field Practice.

Flow of liquids in open channels and in pipes. Discussion of various theories and results of experimental research. Hydraulic principles involved in the design of water supply, sewerage, and irrigation works. Sources and measurements of water supply. Computations of run-off. Hydraulics of wells. Non-uniform flow. Changes of level due to obstructions. The Backwater Function. Flow round river bends.

LABORATORY AND FIELD WORK.

Channel Experiments—Pipe Experiments—Effects of Bends—River Discharge, Measurements, Cross Sectioning, Use of Floats, &c.—Current Meter.

Reference Books.

Ganguillet and Kutter: "Flow of Water in Open Channels."
Moore and Silcock: "Sanitary Engineering."
Fidler: "Calculations in Hydraulic Engineering."
Gibson: "Hydraulics."
Turneaure and Russell: "Public Water Supplies."
Merriman: "Hydraulics."

XXVI. SURVEYING.

PART I.—THIRD YEAR.

A course of 60 Lectures and 125 Hours' Field and Office Work. To be taken by students of the third year in all departments. Students are expected to acquire a working knowledge of the various instruments, and especially familiarity by constant practice with use and adjustments of the level and theodolite, together with the calculations pertaining; also, with the keeping of field records systematically and correctly.

Principles and practice of chaining with chain, tapes, and long wires; corrections for sag, temperature, &c. Slope chainage and computations; surveys with chain alone.

Methods used in surveying for locating points. Short history of the art of surveying. Theory and description of various instruments with their adjustments (compass, theodolite, level, plane-table, barometer, clinometer); calculations pertaining to surveying. Drawing office instruments, plotting, and plan drawing. Elementary stadia survey. Railway location curves, transition curves.

Earthwork and calculations of volumes; estimates of cut and fill; prismoidal formulæ, application and modifications; cross sections; contour lines.

Solution of simple problems in land survey and engineering.

Survey of streams; measurement of discharge by floats, current meters, &c.

Elementary field astronomy; location of meridian and use to check survey.

Elementary mine surveying, including mine surveying problems and special methods on the surface and below; transfer of the meridian below ground; tunnel alignment; survey of bore holes.

Practice work throughout the year is essential, and students in Civil Engineering and Mining will go into the field during vacation between third and fourth years.

Text-book.

Middleton and Chadwick: "A Treatise on Surveying."

Reference Books.

Cardew: "Pocket Manual of Surveying."
Wells and Clay: "Field Engineer's Handbook."
Park: "Theodolite Surveying and Levelling."
Brough: "Treatise on Mine Surveying."
Harris: "Australian Handbook for Government Surveyors."
Johnson and Smith: "Theory and Practice of Surveying."
Boulton: "Practical Coal Mining" (surveying portion).
Chapman: "Astronomy for Surveyors."

PART II.—FOURTH YEAR.

To be taken by Civil Engineering students. The course will cover the ground required by an authorised surveyor.

Reconnaissance survey; refinements of survey work; tacheometry, topographical survey; curve ranging; setting out; levelling; extended practice with instruments; barometrical levelling; hypsometry; land surveying problems; conditions, Australian and foreign; city surveying; identification survey; subdivision of lands. Earthwork volumes, calculation tables.

Field astronomy, determination of latitude, azimuth and time by the several methods; elementary geodesy, convergence of meridians; correction of surveys; least squares; projection of maps; systems of keeping field records, plotting and drawing. Hydrographic surveying, the three-point problem, location of soundings.

Reference Books.

Park: "Theodolite Surveying and Levelling."
Crandall: "Geodesy and Least Squares."
Gribble: "Preliminary Survey and Estimates."
Doolittle: "Practical Astronomy."
Middleton and Chadwick: "A Treatise on Surveying."
Hayford: "Text Book on Geodetic Astronomy."
Merriman: "Precise Surveying and Geodesy."
Briggs: "The Effects of Errors in Surveying."
The Instructions and Regulations of the various Australasian States.

XXVII. BUILDING CONSTRUCTION AND ARCHITECTURE.

ALTERNATIVELY IN THIRD AND FOURTH YEARS.

For Students in Civil Engineering.

BUILDING CONSTRUCTION.

Foundations.—Foundations for various soils, reinforced foundations, pile foundations.

Brickwork.—Limes and cement, various bonds, hollow walls, &c.

Stonework.—Constituents of building stones, Queensland building stones, different kinds of masonry work, construction of masonry work, cornices, &c.

Carpentry.—Australian building timbers, construction of floors, roofs, partitions, &c.

Joinery.—Doors, windows, skirtings, panelling, jamb linings, staircases, &c.

Iron and Steel Work.—Girders, roof principals, columns and stanchions, fire protection in buildings.

Plumbing.—Plumbing in connection with buildings, sanitary plumbing.

Drainage.—Laying of drains, manholes, various kinds of traps, &c.

HISTORY OF ARCHITECTURE.

Features of the following styles, with considerations of prominent examples of them:—

Egyptian and Assyrian, Greek, Roman, Byzantine, Romanesque, Early English Gothic, Decorated Gothic, Perpendicular Gothic, and Renaissance.

XXVIII. ELECTRICAL ENGINEERING.

THIRD YEAR.

(A)—A course of 30 Lectures and 60 hours' Laboratory Practice for third year Civil, Mechanical, Electrical, and Mining Engineers.

Construction of direct and alternating current generators and motors, characteristics of various types, and applicability for different purposes, rotary converters, boosters, transformers, switchgear, controllers' instruments, direct and alternating current distribution systems, storage batteries and their operation, lighting, wiring, fire underwriters' regulations.

(I.) A course of 30 Lectures for third year Mechanical and Electrical Engineers.

Calculation of open circuit characteristics, coefficient of leakage, field coils, estimation of copper, effects of various factors on weight of copper in field coils, armature windings for direct current machines, size and number of slots, estimation of copper, iron losses in practical machines, load loss, ventilation and permissible watts per square inch, calculation of output for given temperature rises, commutators, brushes, commutation, calculation of reactance voltage, design of commutation poles, equalizing rings, efficiency and loss in direct current machines, compounding, method of selection of size of machine for given output and speed, heating on other than continuous running, short time runs, overload.

Theory of alternating currents, form factor, vectors, inductances, transmission line drop, growth of flux, condensers, capacity of transmission lines, measurement of power, transformers, vector diagram, short circuit diagram, regulation, alternators, vector diagram, voltage rise and fall, short circuit characteristic, methods of determining leakage reactance, induction motors, Heyland diagram.

LABORATORY COURSE.

Switchboard operation, testing machines for efficiency, heating and regulation, calibration of instruments, location of faults.

Text-book.

Standard Handbook for Electrical Engineers (McGraw, publisher).

FOURTH YEAR.

(II.) A course of 60 Lectures and 180 Hours' Laboratory Practice for fourth year Electrical and Mechanical Students.

Electrical and mechanical design of direct and alternating current generators and motors, static transformers, rotary converters, automatic reversible boosters, lifting magnets, starters, controllers and regulators, condensers, switch gear, distribution systems, long distance transmission lines, power station layouts, electric traction, storage battery engineering, lighting, cable laying and wiring, power factor correction with rotary and static condensers and phase advancers, economics of design of machinery and installations, preparation of estimates and specifications.

LABORATORY COURSE.

Separation of losses in machines, efficiency, temperature, and regulation tests of direct current, single phase, and polyphase

machines and transformers, calibration of instruments, synchronising and resonance effects, oscillograph tests, cable testing, lamp testing.

Text-books.

Continuous Current Dynamo Design: Hobart.
Alternating Current Motors: McAllister.
Electric Railway Engineering: Parshall and Hobart.
Electric Distributing Networks: Hay.
Electric Journals and Journal of Institution of Electrical Engineers.

XXIX. MECHANICAL ENGINEERING.

FOURTH YEAR.

For Students in Mechanical and Electrical Engineering only.

During this year the student will be required to complete a thesis on an approved subject or the design of some selected mechanical or electrical plan or apparatus: encouragement is given within limits to original and specialised work.

Instruction will be carried on by the Seminar system, which will endeavour mainly to guide students' reading and practical work and fix and amplify the students' knowledge by discussion. Some formal lectures will also be given by the staff and by honorary lecturers who are specialists in some particular line of engineering.

Joint sessions with the Civil Engineering Seminar will occasionally be held to discuss topics of common interest.

The scope of the work will include the design of generating stations, economics of power generation, methods of testing boilers, steam plant, internal combustion engines, refrigerating plants, air compressor pumps, turbines, preparation of estimates, organisation, cost of production, and the commercial aspect of engineering generally.

A considerable portion of the students' time will be spent in carrying out tests of steam plant, boilers, internal combustion engines, refrigerating plants, &c., and in investigating special problems in connection therewith.

Students are required to read engineering journals and scientific papers bearing on the subjects treated and to record their work by card indexing.

The results of all investigations and tests carried out by the student are required to be presented in the form of precise reports which are preserved as a record of the year's work.

I ›MA IN MECHANICAL AND ELECTRICAL ENGINEERING.

SYLLABUS.

FIRST YEAR.

(*a*) Mathematics.
(*b*) Mechanical Drawing.

MATHEMATICS.

Algebra: As for the University Junior Public Examination with the following additional:—The Three Progressions: The Properties and Use of Logarithms.

Geometry: As for the University Junior Public Examination, with the following additional:—Ratio and Proportion, Loci, Inverse Points, Elementary Solid Geometry.

Trigonometry: Up to and including solution of triangles.

MECHANICAL DRAWING.

Lecture Courses.

(*a*) Descriptive Geometry: Scales, Constructions Relating to Straight Lines, Polygons, Circles, and Circular Arcs, Conic Sections, Cycloidal Curves, Involutes, and Spirals. Principles of Orthographic Projection. Elementary Problems on Straight Lines and Planes. Projections of Solids. Interpenetration of Solids. Development of Surfaces. Isometric and Oblique Projection. Principles of Perspective Projection.

(*b*) Object of Machine Design. Mechanical Development and Specification. Theory and Production. Calculations. Notes and Records. Method of Design. Sketches. Analysis of Construction and Forces. Theoretical Design. Practical Modifications. Plans and Specifications. Constructive Mechanics. Forces and Moments. Beams. Diagrams of Bending Moment and Shearing Forces. Cantilever. Concentrated and Distributed Load. Beam Supported

at ends—any arrangement of loads. Tension. Compression and Torsion. Discussion of formulæ—$f = \frac{P}{A}$: $M = \frac{fI}{y}$. Working Stresses. Materials—their uses and properties. Lubrication. Fastenings—Bolts, Studs, &c. Keys, Pins, and Cotters. Shafts and Couplings. Friction Clutches. Journals. Bearings. Belts. Pulleys. Toothed Wheels. Riveted Joints. Pipes and Flanges.

Drawing Office Practice.

(*c*) Descriptive Geometry: Students should complete a series of exercises illustrative of the problems considered in class work.

(*d*) Drawing: Lettering and printing. Drawing of details from working drawings. Sketching of machine parts. Preparation of tracings.

(*e*) Advanced drawing of machine details and assemblies.

(*f*) Design of a simple machine in detail.

In the first two years of the course Parts (*a*), (*c*), and (*d*) should be covered.

In the third year Parts (*b*) and (*e*) should be covered and in the fourth year Part (*f*).

Text-books.

Machine Design (Griffin).
Machine Design, Construction, and Drawing (Spooner).

Reference Books.

Mechanical Engineering (Lineham).
Mechanical Engineer's Pocket-book (Kent).

SECOND YEAR.

(*a*) Applied Mathematics.
(*b*) Physics.
(*c*) Mechanical Drawing.

APPLIED MATHEMATICS.

Kinematics: Displacement, Velocity, Acceleration. Motion of Particle in Straight Line with Constant Acceleration. Acceleration due to Gravity. Elementary Theory of Vectors with Special Application to Composition of Displacement, Velocity, Acceleration.

Motion of Particle with Constant Acceleration in Direction Oblique to Path. Angular Velocity and Acceleration. Motion in a Circle. Simple Harmonic Motion.

Kinetics: The Laws of Motion. Mass, Momentum, Force, Work, Energy, Power. Conservation of Linear Momentum and Conservation of Energy. Collisions. Simple Pendulum. Conical Pendulum.

Statics: Reduction of a System of Forces in a Plane. Friction. Mass Centres. Equilibrium of Rigid Bodies in a Plane.

Hydrostatics: Fluid Pressure. Centre of Pressure. Conditions of Equilibrium of Floating Bodies. Stability for Non-rational Displacements. The Gas Laws.

PHYSICS.

Physics I.: As for University Junior Public Examination, with experimental work.

Physics II.: As for University Senior Public Examination, with experimental work.

THIRD YEAR.

(*a*) Physics.
(*b*) Applied Mechanics.
(*c*) Mechanical Drawing.

APPLIED MECHANICS.

Lecture Course.

Definition of a Machine. Steam Engine Mechanism and its Inversions. Velocity Diagrams. Toothed Gearing. Dynamics of the Steam Engine. Indicator Diagrams. Correction of Indicator Diagrams for Inertia. Twisting Moment Diagrams. Flywheels. Governors. Elements of Balancing. Friction of Journal and Bearings. Lubrication.

Stress and Strain. Characteristics of Materials. Shearing Forces. Bending Moments. Diagrams of Bending Moment and Shearing Force. Neutral Axis. Modulus of Section. Deflection of Beams. Long and Short Columns. Straight Line Formulæ. Torsion of Shafts. Polar Modulus for Circular Sections. Springs.

Laboratory Course.

Measurements of Efficiency and Mechanical Advantage of Simple Machines, such as Screw Press; Pulley Blocks; Differential Pulley Worm and Wheel; Geared Crane; Hydraulic Jack.

Measurement of Friction Co-efficients. Energy of Flywheel. Deflection of Springs. Simple Tests of Materials in Tension, Compression, and Cross Breaking. Deflection of Beams.

Simple Hydraulic Measurements. Calibration of Gauges, Spring Balances, &c.

Text-book.

Goodman: Mechanics Applied to Engineering.

FOURTH YEAR.

(*a*) Heat Engines.
(*b*) Electrical Engineering.
(*c*) Machine Design and Drawing.

HEAT ENGINES.

A Course of 60 Lectures and 80 Hours' Laboratory Practice.

Lecture Course.

Short History of the Development of Heat Motors. Elementary Theory of Heat Engines. Laws of Thermodynamics. Cycle of Operations of the Working Substance in a Heat Engine. Laws of Permanent Gases. Work done by an Expanding Fluid. Adiabatic Expansion. Isothermal Expansion. Carnot's Cycle of Operations. Efficiency of Carnot's Cycle. Reversed Carnot's Cycle. Efficiency of a Perfect Heat Engine.

Properties of Steam. Elementary Theory of the Steam Engine. Rankine's Cycle. Indicators. Indicator Diagrams. Hypothetical Diagrams. Diagram Factor. Cylinder Condensation. Jacketing. Ratio of Expansion. Two and Three Stage Expansion. Combined Diagrams. Slide Valves and Valve Setting. Valve Diagrams (Zeuner Wave, form). Reversing Gears. Expansion Valves.

Design of a Compound Steam Engine in Detail. Sizes of Cylinders for a given Indicated Horse Power. Crankshafts. Connecting Rods. Piston Rods. Pistons. Glands and Stuffing Boxes.

Cylinders. Ports and Passages. Valves. Covers. Bed Plates and Framings. Bearings. Eccentrics, &c. The Steam Turbine. Impulse Types. Reaction Types. Flow of Fluid through Nozzles. Angles of Blades and Nozzles. Exhaust Turbines.

The Testing of Steam Engines and Boilers for Efficiency.

Fuels. Combustion. Boilers (fire and water tube). Leading Types and their Relative Suitability for Various Purposes. Transmission of Heat through Plates. Grate Surface. Heating Surface. Details of Construction. Riveted Joints. Stayed Surfaces. Stays. Furnaces. Chimneys. Fittings and Mountings. Board of Trade and Lloyd's Requirements. Maintenance and Operation.

Air Compressors. Cold-air Engines. Hot-air Engines.

Internal Combustion Engines. Cycles of Operations. Leading Types of Gas Engines. Suction Gas Plants. Producers. Oil Engines (for refined and crude oils). Petrol Engines. Power Ratings Testing of Gas and Oil Engines for Efficiency.

Laboratory Course.

Drawing the Valve Diagrams and Setting the Valves of a Simple Engine with D and Piston Type Valve. Meyer Expansion Valve. Link Motions. Use of Indicator and Brakes. Tests of Steam and Gas Engines for Mechanical Efficiency.

Preliminary Tests for Evaporative Capacity of Boilers. Steam Consumption Tests of an Engine.

Text-books.

Heat Engines (Inchley).
Steam and Other Engines (Duncan).
Mechanical Engineering (Linelham).
Pocket-book of Marine Engineering Rules and Tables (Seaton and Rounthwaite).

Reference Books.

The Steam Engine and other Heat Engines (Ewing).
Applied Thermodynamics (Ennis).
History of the Steam Engine (Thurston).
Steam Tables (Marks and Davis)
Steam Boilers (Parsons).

ELECTRICAL ENGINEERING.

Dynamos and Motors. Types. Carcase. Armature. Excitation. Commutation. Commutating Poles. Applications of various Types. Alternators. Synchronous Motors. Rotary Converters. Transformers and Induction Motors.

Regulation and Starting. Starters and Controllers.

Distribution. Kelvin's Law. Mains and Branches. Losses. High Tension Mains. Insulators.

Generation. Power Stations. Choice of Plant. Switchboards, Hand-operated and Remote Control. Types of Indicating and Recording Instruments. Substations.

Lighting. Internal Lighting with Incandescent or Arc Lamps. External Lighting. Arc Lamps. Metal Filament Lamps. Vapour Lamps.

Wiring. House Wiring. Casing. Conduits. Fire Underwriters' Regulations. Joints. Cutouts and Switches.

Laboratory Course.

Losses in Machines. Efficiency and Regulation. Switchboard operation. Paralleling and Synchronising.

Calibration of Instruments as Voltmeter, Ammeter, Wattmeter, and Watthour Meter.

Jointing of Wires and Cables.

Testing and Adjusting Arc Lamps.

Armature Winding and Former Making.

Text-book.

Barr: Electrical Engineering.

TIME TABLE

FACULTY OF ARTS.—TIME TABLE OF LECTURES.

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	EVENING CLASSES.
Monday ..	Pure Math. I. (A and B) Latin II.	Latin I. App. Math. II. Brit. Hist. II. Greek II.	Brit. Hist. I. Psychol. I.	Education	
Tuesday ..	Greek II. App. Math. I. French I. Logic II.	Greek I. Pure Math. II. Ethics	Const. Hist. and Pol. Sci. I. French II. English I.	German I. German II. Education	Applied Mathematics I. and II. British History I. Economics. English I. and II. French I. Latin I. Logic and Psychology I. Pure Mathematics I. and II. Time Table will be arranged as required.
Wednesday..	Anc. Hist. Pure Math. I. (A)	Latin I. Latin II. Const. Hist. and Polit. Science II.	Greek I. English II.	English I. Metaphysics	
Thursday ..	Greek II. App. Math. I. French I. Psychol. II.	Greek I. Pure Math. II. Const. Hist. and Polit. Science II.	French II. Const. Hist. and Pol. Sci. I.	German I. German II.	
Friday ..	Pure Math. I. (A and B) Latin II.	Latin I. App. Math. II. Brit. Hist. II.	Logic Brit. Hist. I.	English II. English I.	

FACULTY OF SCIENCE.—TIME TABLE OF LECTURES AND LABORATORY WORK.

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 5.
Monday ..	Pure Maths. I. (A and B). Chemistry II. Geology III.	Physics I. **Geology Lab. II.** App. Maths. II.	**Geology Lab. II.**	Physics III. Chemistry I. Biology III.	**Chemistry Lab. I.** **Chemistry Lab. II.**
Tuesday ..	App. Maths. I. Physics II. Chemistry III. Geology II.	Geology I. Pure Maths. II.	Biology II. **Geology Lab. I.** **Geology Lab. II.**	Chemistry III. **Geology Lab. I.** **Geology Lab. II.**	Physics Lab. II. **Biology I., Lect. and Lab.** **Biology Lab. II.**
Wednesday ..	Pure Maths. I. (A) Chemistry II. Geology III.	Physics I. **Chemistry Lab. II.**	Geology I. (3rd term only) **Chemistry Lab. II.**	Physics III. Chemistry I. **Chemistry Lab. II.**	**Geology Lab. II.**
Thursday ..	App. Math. I. (A). Physics II. Biology II. Chemistry III.	Geology I. Pure Maths. II.	Biology II. **Chemistry Lab. I.**	Biology III. **Chemistry Lab. I.** Geology II.	**Physics Lab. II.** **Biology I., Lecture, and Lab.** **Biology Lab. II.**
Friday ..	Pure Math. I. (A and B). Chemistry II. Geology III.	Physics I. **Biology, Lab. II.** App. Maths. II.	Geology II. **Geology, Lab. I.** **Biology, Lab. II.** Biology III.	Physics III. Chemistry I. **Biology Lab. II.** Engineering Geology (2nd term only).	**Physics Lab. I.** **Chemistry Lab. II.** (2nd term only).
Saturday ..	**Chemistry Lab. II.** (1st term only).				

FACULTY OF ENGINEERING.—TIME TABLE, 1922.

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 5.
MONDAY—					
1st Year All	Pure Mathematics I.	Physics I.	**Engineering Design I.**	Chemistry I.	**Chemistry Lab. I.**
2nd Year All	Chemistry II.	Applied Mathematics II.	**Applied Mechanics Lab.**	**Applied Mechanics Lab.**	**Heat Engines Lab. I.**
3rd Year Civil	**Engineering Design III.**	**Engineering Design III.**	**Engineering Design III.**	**Engineering Design III.**	**Hydraulics Lab.** and **Materials Testing** (Alternate).
3rd Year Mechanical and Electrical	Heat Engines II.	**Engineering Design III.**	**Engineering Design III.**	Electrical Engineering I.	
4th Year Civil	**Engineering Design IV.**	**Engineering Design IV.**	**Engineering Design IV.**	**Engineering Design IV.**	**Engineering Design IV.**
4th Year Mechanical and Electrical	**Electrical Lab. and Design IV.**	**Electrical Lab. and Design IV.**	**Electrical Lab. and Design IV.**	**Electrical Lab. and Design IV.**	**Electrical Lab. and Design IV.**
TUESDAY.—					
1st Year All	Applied Mathematics I.	Geology I.	**Geology Lab. I.**	**Geology Lab. I.**	**Engineering Drawing I.**
2nd Year All	Physics II.	Pure Mathematics II.	..	Heat Engines I.	**Engineering Design II.** (1st and 3rd terms) **Physics Lab. II.** (2nd term)
3rd Year Civil	Hydraulics I.	Electrical Engineering A.	Mathematics III. (1st and 2nd terms) **Journals** (3rd term)	**Journals.**	**Engineering Chemistry** (1st and 2nd terms) **Engineering Design** (3rd term).
3rd Year Mechanical and electrical	Hydraulics I.	Electrical Engineering A.	Mathematics III. (1st and 2nd terms) **Journals** (3rd term)	**Journals.**	ditto
4th Year Civil	..	..	Seminar	Seminar	**Engineering Design IV.**
4th Year Mechanical and Electrical	**Electrical Lab. and Design IV.**	**Electrical Lab. and Design IV.**	Seminar	Seminar	**Electrical Lab. and Design IV.**
4th Year Applied Science	..	Electrical Engineering A.	..	..	**Engineering Design III.**

FACULTY OF ENGINEERING—*continued.*

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 5.
WEDNESDAY—					
1st Year All	Pure Mathematics I. (Optional)	Physics I.	Descriptive Geometry (1st and 2nd terms Geology I. (3rd term)	Chemistry I.	..
2nd Year All	**Engineering Design II.**	**Engineering Design II.**	**Engineering Design II.**	Applied Mechanics (1st and 2nd terms) Engineering Design II. (3rd term)	..
3rd Year Civil	Civil Engineering I.	**Engineering Design III.**	**Engineering Design III.**	**Engineering Design III.**	..
3rd Year Mechanical and Electrical	Civil Engineering I.	**Engineering Design III.**	**Engineering Design III.**	**Engineering Design III.**	..
4th Year Civil	**Engineering Design IV.**	**Engineering Design IV.**	**Engineering Design IV.**	**Engineering Design IV.**	..
4th Year Mechanical and Electrical	Electrical Engineering II.	Seminar	Seminar	..	..
THURSDAY—					
1st Year All	Applied Mathematics I.	Geology I.	**Chemistry Lab. I.**	**Chemistry Lab. I.**	**Practical Descriptive Geometry** (1st and 2nd terms) **Engineering Drawing I.** (3rd term)
2nd Year All	Physics II.	Pure Mathematics II.	..	Heat Engines I.	**Physics Lab. II.**
3rd Year Civil	Surveying I.	**General Laboratory**	**General Laboratory**	**General Laboratory**	**Practical Surveying I.**
3rd Year Mechanical and Electrical	Surveying I.	**General Laboratory**	**General Laboratory**	Heat Engines II.	**Practical Surveying I.***
4th Year Civil	**Practical Surveying II.**	**Practical Surveying II.**	**Practical Surveying II.**	**Practical Surveying II.**	**Practical Surveyigng II.**
4th Year Mechanical and Electrical	**Journals**	**Journals**	**Journals**	**Journals**	**Engineering Design IV.**

* **Third and Fourth year Civil Engineers—Thursdays, 5·30–6·30 p.m. Building Construction and History of Architecture—Alternate years.**

FACULTY OF ENGINEERING—*continued.*

Day.	9 to 10.	10 to 11.	11 to 12.	12 to 1.	2 to 5.
FRIDAY—					
1st Year All	Pure Mathematics I.	Physics I.	**Geology Lab. I.**	Chemistry I.	**Physics Lab. I.**
2nd Year All	Chemistry II.	Applied Mathematics II.	..	Applied Mechanics	**Engineering Design I.** (2nd and 3rd terms) **Chemistry Lab. II.** (1st term)
3rd Year Civil	Civil Engineering I.	**Engineering Design III.**	**Engineering Design III.**	**Engneering Design III.** (1st and 3rd tm.) Engineering Geology (2nd term)	**Electrical Lab.** (1st and 2nd terms) **Engineering Design III.** (3rd term)
3rd Year Mechanical and Electrical	Civil Engineering I.	**Heat Engines Lab.**	**Heat Engines Lab.**	**Heat Engines Lab.**	**Engineering Design III.**
4th Year Civil	Surveying II.	**General Laboratory**	Seminar	Seminar	**General Laboratory** (2nd and 3rd terms) **Materials Testing** (1st term)
4th Year Mechanical and Electrical	Electrical Engineering II.	**Heat Engines Lab.**	**Heat Engines Lab.**	**Heat Engines Lab.**	ditto
SATURDAY—					
1st Year All	**Engineering Drawing I.** (1st term only).	..	..	..	..
2nd Year All	**Chemistry Laboratory II.** 3rd term only).	..	..	..	..
3rd Year Civil	Surveying I.	**Engineering Design III.**	**Engineering Design III.**	..	..
3rd Year Mechanical and Electrical	Surveying I.	**Engineering Design III.**	**Engineering Design III.**	..	..
4th Year Civil	**Engineering Design IV.**	**Engineering Design IV.**	**Engineering Design IV.**	..	..
4th Year Mechanical and Electrical	**Engineering Design IV.**	**Engineering Design IV.**	**Engineering Design IV.**	..	..
2nd Year Applied Science	**Engineering Design II.**	**Engineering Design II.**	**Engineering Design II.**	..	..

COMBINED TIME TABLE—ALL FACULTIES.

DAY CLASSES.

9 to 10 a.m.	10 to 11 a.m.	11 a.m. to 12 noon.	12 noon to 1 p.m.	2 to 5 p.m.
MONDAY.				
Pure Maths. I. (A and B)	Latin I.	British History I.	Education	Chemistry Lab. I. and II.
Latin II.	App. Maths. II.	Psychol. I.	Biology III.	Heat Engines Lab. I.
Chemistry II.	British History II.	Geology Lab. II.	Chemistry I.	Engineering Design IV.
Geology III.	Greek II.	App. Mechanics Lab.	Physics III.	Electricity Lab. and Design IV.
Engineering Design III and IV.	Physics I.	Engineering Design I, III. and IV.	Engineering Design III. and IV.	Hydraulic Lab. and Materials Testing Alternate.
Heat Engines II.	Geology Lab. II.	Electrical Lab. and Design IV.	App. Mechanics Lab.	
Electrical Lab. and Design IV.	Engineering Design III. and IV.		Elec. Engineering I.	
	Electrical Lab. and Design IV.		Electrical Lab. and Design IV.	

COMBINED TIME TABLE—ALL FACULTIES—*continued.*

DAY CLASSES—*continued.*

9 to 10 a.m.	10 to 11 a.m.	11 a.m. to 12 noon.	12 noon to 1 p.m.	2 to 5 p.m.
		TUESDAY.		
Greek II.	Greek I.	Const. History and Pol. Science	German I.	Biology I. Lecture and Lab.
Applied Maths. I.	Pure Maths. II.	English I. Geology Lab. I and II.	German II.	Biology Lab. II.
French I.	Ethics	Biology II.	Education	Physics Lab. II. (2nd term)
Logic II.	Geology I.	Spherical Trigonometry and Astronomy	Chemistry III.	Engineering Drawing I.
Physics II.	Electrical Lab. and Design IV.	Mech. and Electrical 4th year, Seminar (3rd term)	Geology Lab. I. and II.	Engineering Design II. (1st and 3rd terms)
Chemistry III.	Elec. Engineering A.	Civil Eng. Seminar, 4th year	Heat Engines I.	
Geology II.		Maths. III. (1st and 2nd terms)	Journals	Engineering Chem. (1st and 2nd terms)
Hydraulics I. and II.		Journals (3rd term)	Seminar	Engineering Design III. and IV.
Electrical Lab. and Design IV.				Electrical Lab. and Design IV.

COMBINED TIME TABLE—ALL FACULTIES—*continued.*

DAY CLASSES—*continued.*

9 to 10 a.m.	10 to 11 a.m.	11 a.m. to 12 noon.	12 noon to 1 p.m.	2 to 5 p.m.
WEDNESDAY.				
Ancient History	Latin I. and II.	Greek I.	English I.	Geology Lab. II.
Pure Maths. I. (A)	Const. Hist. and Pol. Science II.	English II.	Metaphysics	
Chemistry II.	Physics I.	Biology III.	Physics III.	
Geology III.	Chemistry Lab. II.	Chemistry Lab. II.	Chemistry I.	
Electrical Engineering II.	Engineering Design II., III., and IV.	Geology I. (3rd term only)	Chemistry Lab. II.	
Engineering Design IV.	Seminar	Seminar	App. Mechanics (1st, and 2nd terms)	
Civil Engineering I.		Engineering Design II., III., and IV.	Engineering Design II., 3rd term III. and IV.	
		Descrip. Geom. (1st. and 2nd terms)		
		Geology I. (3rd term)		

COMBINED TIME TABLE—ALL FACULTIES—*continued.*

DAY CLASSES—*continued.*

9 to 10 a.m.	10 to 11 a.m.	11 a.m. to 12 noon.	12 noon to 1 p.m.	2 to 5 p.m.
THURSDAY.				
Greek II.	Greek I.	French II.	German I. and II.	Biology I., Lecture and Lab.
App. Maths. I.	Pure Maths. II.	Const. Hist. and Pol. Science I.	English II.	Physics Lab. II.
French I.	Const. Hist. and Pol. Science II.	Chemistry Lab. I.	Chemistry Lab. I.	Practical Descriptive Geom. 1st and 2nd terms.
Psychology II.	Geology I.	Biology II.	Biology III.	Engineering Drawing I. (3rd term.)
Physics II.	..	General Laboratory	Geology II.	Pract. Surveying I. and II.
Chemistry III.	General Laboratory.	Pract. Surveying II.	Heat Engines I. and II.	Engineering Design IV.
Biology II.	Pract. Surveying II.	Journals.	General Laboratory	
Surveying I.	Journals.		Pract. Survey II.	
Pract. Surveying II.			Journals.	
Journals.				

COMBINED TIME TABLE—ALL FACULTIES—*continued.*

DAY CLASSES—*continued.*

9 to 10 a.m.	10 to 11 a.m.	11 a.m. to 12 noon.	12 noon to 1 p.m.	2 to 5 p.m.
FRIDAY.				
Pure Maths. I. (A and B)	Latin I.	Logic I.	English I.	Physics Lab. I.
Latin II.	App. Maths. II.	British History I.	English II.	Chem. Lab. II. (2nd term only)
Chemistry II.	British History II.	Geology II.	Biology Lab. II.	Engineering Design (2nd and 3rd terms)
Geology III.	Physics I.	Geology Lab. I.	Chemistry I.	Elec. Lab. (1st and 2nd terms)
Surveying II.	Biology Lab. II.	Biology Lab. II.	Engineering	Engineering Design III.
Civil Engineering I.	Engineering Design III.	Biology III.	Geology (2nd term only.)	General Lab. (2nd and 3rd terms)
Electrical Engineering II.	Heat Engines Lab.	Engineering Design III.	Applied Mechanics.	Materials Testing (1st Term)
	General Laboratory	Heat Engines Lab.	Physics III.	
		Seminar.	Heat Engines Lab.	
			Engineering Design III. (1st and 3rd terms)	
			Eng. Geology (2nd term)	
			Seminar	

COMBINED TIME TABLE—ALL FACULTIES—*continued*

DAY CLASSES—*continued*.

9 to 10 a.m.	10 to 11 a.m.	11 a.m. to 12 noon.	——	——
		SATURDAY.		
Eng. Drawing I. Surveying I. Engineering Design II. and IV. **Chemistry Lab II.** (1st term only)	Engineering Design II., III., and IV.	Engineering Design II., III., and IV.		

BIBLIOGRAPHICAL RECORD, 1921.

(I.) Official Publications.

(1) Calendar of the University of Queensland for the Year 1921. Brisbane. A. J. Cumming, Government Printer, 1920. 8vo. Annual.

(2) Manual of Public Examinations of the University of Queensland for the Years 1920 and 1921. Brisbane. A. J. Cumming, Government Printer, 1920, Royal octavo. Annual.

(II.) Publications of University Officers and Research Students.

BIOLOGY.

T. HARVEY JOHNSTON, M.A., D.Sc., F.L.S.—

(1) Notes on the Chalcid Parasites of Muscoid Flies in Australia. Proc. Roy. Soc. Qd., 32, 1920; pp. 19-30. With M. J. Bancroft.)

(2) Experiments with Certain Diptera as Possible Transmitters of Bovine Onchocerciasis. Proc. Roy Soc. Qd., 32, 1920; pp. 31-57. (With M. J. Bancroft.)

(3) The Life History of Habronema in Relation to Musca domestica and Native Flies in Queensland. Proc. Roy. Soc. Qd., 32, 1920; pp. 61-68. (With M. J. Bancroft.)

(4) Notes on the Biology of Certain Queensland Flies. Memoirs Qd. Museum, 7, 1920; pp. 31-43. (With M. J. Bancroft.)

(5) Notes on the Life History of Some Queensland Tabanidæ. Proc. Roy. Soc. Qd., 32, 1920; pp. 125-131. (With M. J. Bancroft.)

(6) The Cattle Tick. Science and Industry, 2, 1920; pp. 347-351.

(7) A New Species of Bonellia from Port Jackson, Rec. Austr. Museum, 13, 1920; pp. 73-76. (With O. W. Tiegs.)

(8) Report on the Chætognatha. Scientific Reports of the Australian Antarctic Expedition: Ser. C, Vol. 6 (2); 16 pp. (With B. B. Taylor.)

M. J. BANCROFT, B.Sc., Walter and Eliza Hall Fellow in Economic Biology, 1918, 1919—

(1) Notes on the Chalcid Parasites of Muscoid Flies in Australia. Proc. Roy. Soc. Qd., 32, 1920; pp. 19-30. (With T. H. Johnston.)

(2) Experiments with Certain Diptera as Possible Transmitters of Bovine Onchocerciasis. Proc. Roy. Soc. Qd., 32, 1920; pp. 31-57. (With T. H. Johnston.)

(3) The Life History of Habronena in Relation to Musca domestica and Native Flies in Queensland. Proc. Roy. Soc. Qd., 32, 1920; pp. 61-88. (With T. H. Johnston.)

(4) Notes on the Biology of Certain Queensland Flies. Memoirs Qd. Museum, 7, 1920; pp. 31-43. (With T. H. Johnston.)

(5) Notes on the Life History of Some Queensland Tabanidæ. Proc. Roy. Soc. Qd., 32, 1920; pp. 125-131. (With T. H. Johnston.)

O. W. TIEGS, B.Sc., Walter and Eliza Hall Fellow on Economic Biology 1920—

A New Species of Bonellia from Port Jackson. Rec. Austr. Museum, 13, 1920; pp. 73-76. (With T. H. Johnston.)

B. B. TAYLOR—

Report on the Chætognatha. Scientific Reports of the Australian Antarctic Expedition: Ser. C, Vol. 6 (2); 16 pp. (With T. H. Johnston.)

CHEMISTRY.

L. S. BAGSTER, D.Sc.—

The Reaction between Nitric Acid and Copper. Transactions of the Chemical Society, 1921, Vol. 119, pp. 82-87.

GEOLOGY.

H. C. RICHARDS, D.Sc.—

(1) Artesian Water Problem. Science and Industry, Vol. I., 1919.

(2) Building Stones of Queensland. "Commonwealth Year Book" No. 12, 1919.

(3) Vent Structures and Jointing, Municipal Quarry, Toowoomba. "Queensland Naturalist," II., No. 4, 1920.

MATHEMATICS.

H. J. PRIESTLEY, M.A., Professor of Mathematics—

(1) Relativity and the Deviation of Spectral Lines. "Nature," 10th March, 1921.

(2) On the Linear Differential Equation of the Second Order. [Abstract.] London Mathematical Society. Records of Proceedings of Meeting, 13th January, 1921.

(3) On the Einstein Spectral Line Effect. "Philosophical Magazine," May, 1921, Vol. XLI.

(4) On Some Solutions of the Wave Equation. Proceedings of the London Mathematical Society, Series 2, Vol. 20, Part I., May, 1921.

(5) Presidential Address, Australasian Association for the Advancement of Science, Melbourne, January, 1921.

(6) On the Displacement of Spectral Lines by a Gravitational Field. "Nature," 7th July, 1921.

LIST OF SCHOLARSHIPS, EXHIBITIONS, PRIZES, &c.

GOLD MEDALS.

14-7-15.

Two Gold Medals, given by the Government of Queensland, are awarded to Students of any Faculty at Graduation on the recommendation of the Board of Faculties acting on the recommendation of the Faculties, for outstanding merit in any department of the University.

1916.—No award.
1917.—Ilma Ruby Sterne, Thomas Thatcher.
1918.—No award.
1919.—Noel Crawford Aitken, Stuart Wortley Pennycuick.
1920.—No award.
1921.—No award.

SCHOLARSHIP FOR THE ENCOURAGEMENT OF ORIGINAL CHEMICAL RESEARCH.

Established by the Government of Queensland; Annual Value, £100; Tenable for Two Years.

The following conditions for the award of the Scholarship for the Encouragement of Original Chemical Research have been approved:—

1. Candidates for the Scholarship must have completed all the conditions for graduation in the Faculty of Science in the School of Chemistry not more than three years before the award of the Scholarship.

2. The Scholarship shall be awarded on the recommendation of the Professor of Chemistry. The student's record throughout his course and his suitability to carry out research shall be taken into account in making the award, but the Scholarship shall not be awarded to any candidate who has failed to attain a Second Class standard at his Final Honour Examination.

3. The Scholar shall carry out Research in the Chemistry Laboratories of the University under the direction of the Professor of Chemistry.

4. The Scholar shall give such assistance in demonstrating to classes in Chemistry as may be prescribed; such demonstrating shall not exceed the period of six hours per week.

5. Payment of the emoluments of the Scholarship shall be made in three terminal instalments on the certificate of the Professor of Chemistry.

6. The Scholarship shall be tenable for two years, but the continuance for the second year shall be conditional upon the producing of a certificate from the Professor of Chemistry to the performance of satisfactory work by the candidate during his first year.

7. The name of the successful candidate for the Scholarship shall be announced as soon as possible after the results of the Final Honour Examination.

1914.—George Watson Hargreaves.
1915.—No award.
1916.—Stewart Byron Watkins.
1917.—No award.
1918.—George Cooling.
1919.—Stuart Wortley Pennycuick.
1920.—Robert Alexander Boyle, B.Sc.
1921.—No award.

SCHOLARSHIP FOR ENGINEERING.

Established by the Government of Queensland. A Scholarship of the value of £200; tenable for One Year.

The following conditions for the award of the Scholarship for Engineering have been approved:—

1. There shall be a Scholarship awarded each year to students of the University of Queensland who have

fulfilled the conditions for graduation in Engineering, for the purpose of further research and study, provided that there are candidates of sufficient merit.

2. The Scholarship shall entitle the holder to £200 for a period of one year.

3. The candidates' general suitability, and their record throughout their course at the University, shall be considered when making the award.

4. The scholar shall engage in approved work, submit intermediate reports to the Faculty when required by the Faculty, and a final report embodying results and opinions.

5. The scholar shall be required to give eight hours per week of his time to the University for demonstration purposes, and shall be entitled to free attendance and use of material at the University.

6. The Scholarship shall be awarded on the recommendation of the Faculty of Engineering. The name of the successful candidate shall be announced as soon as practicable after the results of the final examination.

7. The emoluments of the scholar shall be paid in three terminal instalments on production of certificate of satisfactory work from the Professor of Engineering.

1915.—Alexander Leahy MacIntyre.*
1916.—No award.†
1917.—No award.†
1918.—No award.†
1919.—No award.
1920.—No candidate.

FOUNDATION TRAVELLING SCHOLARSHIP.

Established by the Government of Queensland. Annual value, £250; tenable for Two Years.

* With Gold Medal. † Owing to war conditions.

The following conditions for the award of the Scholarship have been approved:—

1. The Scholarship shall be open to all students of the Faculty of Arts or Science at any time within two and a-half years of the completion of the second year of their course for the Bachelor's Degree, and to students in the Faculty of Engineering at any time within two and a-half years of the completion of the third year of their course for that degree.

2. No one shall be eligible for the Scholarship who has not passed at least two years of his course for the Bachelor's Degree at the University.

3. The Scholarship shall be awarded on the recommendation of the Board of Faculties before the end of the first term in each year. Candidates must send in their applications to the Registrar before the 31st March, and each Faculty shall be asked to report to the Board on all its own candidates. In the selection of candidates their whole academic career and general fitness for profiting by further study shall be taken into account.

4. The holder of the Scholarship shall pursue his studies outside Australasia.

5. The candidate must in his application give a general outline of the manner in which he proposes to occupy his time during the tenure of the Scholarship, giving notice of the character of his proposed studies at any learned institution or of his proposed activities in other directions.

6. The holder of the Scholarship must present a satisfactory report to the Board of Faculties each year not later than the 1st September. If he desires to alter his plans materially, he shall announce the proposed change to the Board of Faculties and obtain its approval.

7. Except with the consent of the Senate, on the recommendation of the Board of Faculties, no scholar shall occupy any salaried position or undertake any employment for payment during his scholarship, or take fees for teaching any pupil either publicly or privately.

8. In the event of any infringement of these regulations by the holder of a Scholarship, the Board of Faculties may recommend its discontinuance, and it may be discontinued accordingly.

9. The Scholarship shall not be tenable simultaneously with any other Fellowship or Scholarship which may be held only by a student of the University of Queensland. In regard to Scholarships or Fellowships which are foundations of any other University, the Board of Faculties shall recommend which, if any of them, may be held simultaneously with this Scholarship.

10. If for any reason a Scholarship lapses before or at the end of its first year of tenure, the Senate may at its discretion, on the recommendation of the Board of Faculties, appoint a scholar to hold the Scholarship for the balance of the period or extend an existing Scholarship for a further year.

11. Payment of the emoluments of the Scholarship shall be made quarterly in advance.

Foundation Travelling Scholar.

1914.—Arthur Blaney Powe.
1915.—James Lockhart Mursell.
1916.—Bevil Hugh Molesworth.
1917.—Walde Gerard Fisher.*
1918.—Herbert Victor Byth.
1919.—Archibald Ernest Edgar Pearse.
1920.—Not awarded.
1921.—Eric Honeywood Partridge.

* Killed in action, 5th April, 1918.

FOUNDATION SCHOLARSHIPS.

The Government of Queensland grants annually twenty Foundation Scholarships, which are open to persons entering the University. They are given upon the result of the Senior Public Examinations, and entitle the holders to free education at the University, together with an allowance at the rate of £26 per annum, if the candidates can live at home and attend the University, or £52 per annum if they have to live away from home to attend the University. They are tenable for three years. Particulars of the conditions laid down in respect of these Scholarships are published annually in the *Queensland Government Gazette.*

THE THOMAS MORROW PRIZE.

Founded in 1910 by a gift of £150 from the late Mr. Thomas Morrow, the annual interest upon which sum is devoted to the providing of a Book Prize for an essay on a subject of purely Australian interest.

Conditions.

1. The Thomas Morrow Prize shall be open for competition amongst the Undergraduates of the University.

2. The Prize shall be awarded annually to the author of the best essay on a subject set in rotation from one of the following groups:—

(*a*) Australian literature;
(*b*) Australian exploration and history;
(*c*) Scientific inquiry in Australia.

3. Each essay shall be typewritten. The name of the candidate shall not appear on the essay, but a motto shall be attached thereto. Along with the essay shall be sent a sealed envelope containing the name of the candidate and the motto adopted by him. Such envelope shall not be opened until the essays have been adjudged.

4. The Board of Faculties shall, before the end of the second term in each year, announce the subject of the essay for the following year.

5. The Board of Faculties shall recommend annually to the Senate the Examiners, who, if Professors or Lecturers in the University, shall act accordingly.

6. Essays shall be sent to the Registrar not later than the end of the second term in each year.

7. If in the opinion of the Examiners the competing essays in any year be unworthy of the prize, the prize shall not be awarded in that year, and the amount thereof shall be added to and shall become part of the principal sum.

1912.—No award.
1913.—Margaret Wilhelmina Smith.
1914.—Charles Schindler.
1915.—Hilda Margaret McCulloch.
1916.—No award.
1917.—Roy Graff.
1918.—No award.
1919.—Albert Edward Palfery.
1920.—No award.
1921.—No candidate.

The subject of the essay for 1922.—Local Government in Queensland up to 1902.

THE ARCHIBALD SCHOLARSHIP.

Founded in 1911 by a gift of £500 from the beneficiaries in the estate of the late Honourable John Archibald, M.L.C., to found a yearly Archibald Scholarship.

Conditions.

1. The said sum of £500 shall form the endowment for a scholarship, to be called "The Archibald Scholarship," and shall be invested as the Senate of the University shall from time to time direct.

2. The Scholarship shall be awarded annually to the author of the best essay on a subject connected with the theory or practical application of Economics.

3. The essay shall be sent to the Registrar, so as to be in his hands before the first day of the Final Honours Examination in Arts in each year.

4. The Archibald Scholarship shall be open to Undergraduates or Graduates of not more than one year's standing, but no such scholarship shall be awarded to any such Undergraduate or Graduate more than once.

5. The Faculty of Arts shall, so soon as may be after the passing of this regulation and thenceforth annually in the month of June, select the subject of the essay for the Archibald Scholarship for the ensuing year.

6. The Board of Faculties shall recommend annually to the Senate Examiners for the Archibald Scholarship, and every Professor or Lecturer so appointed shall act accordingly.

7. If, in the opinion of the examiners, none of the competing essays in any year be worthy of the scholarship, the scholarship shall not be awarded in that year, and the amount thereof shall be added to and shall become part of the principal sum.

1913.—No award.
1914.—James Lockhart Mursell.
1915.—No candidate.
1916.—No award.
1917.—Edward James Droughton Stanley, B.A.
1918.—Thomas Thatcher, B.A.
1919.—No candidate.
1920.—No candidate.
1921.—Frederick Gordon Crane.

The subject of the essay for 1922.—An Economically Independent Australia.

THE LIZZIE HEAL-WARRY PRIZE.

Founded in 1910 by a gift of £100 from the late Lizzie Heal, wife of the late George L. Warry, Esq., for the establishment of a University prize, to be provided from the annual interest, and to be called "The Lizzie Heal-Warry Prize."

The interest on the above sum of £100 is utilised for providing a Prize of Books.

The prize is awarded to the First-Year woman student who is most proficient in English. In no case will the prize be awarded to a student a second time.

13-5-21.

The Chairman of the Faculty of Arts shall report to the Senate at the end of each University year the name of the student to whom he recommends the prize to be given.

If, in the opinion of the Examiners in English in any year, no first year woman student reaches a standard sufficiently high to warrant the award, the prize shall not be awarded in that year, and the amount thereof shall be added to and become part of the principal sum.

1911.—Annie Emily Jane Goertz.
1912.—Margaret Wilhelmina Smith.
1913.—Hilda Margaret McCulloch.
1914.—Leila Isabel Florence MacNish.
1915.—Olive Adam.
1916.—Pearl Adam.
1917.—No award.
1918.—No award.
1919.—Alix. Ena Kathleen Veronica Baggaley.
1920.—Alix Ena Kathleen Veronica Baggaley.

THE ROBERT PHILP SCHOLARSHIP.

At a public meeting held in Brisbane on 18th January, 1909, a Fund was inaugurated for a permanent testimonial to the Honourable Sir Robert Philp, K.C.M.G. (member of the

Legislative Assembly for Musgrave, 1886-1888, for Townsville since 1888, Premier of Queensland from 7th December, 1899, to 9th September, 1903, and from 19th November, 1907, to 18th February, 1908), in record of the high esteem in which he is held by the people of Queensland for his long service as a member of Parliament and Minister of the Crown in Queensland; and it was resolved that such testimonial should be a scholarship in the University of Queensland, to be called " The Robert Philp Scholarship."

The conditions relating to the scholarship are embodied in a trust deed, which, together with a cheque for £1,366 14s. 3d., was presented to the Honourable Sir Robert Philp at a public meeting in Brisbane on 15th March, 1912, and by him then and there delivered to the Chancellor of the University.

STATUTE RELATING TO THE ROBERT PHILP SCHOLARSHIP.

1. The University of Queensland shall stand possessed of the sum of one thousand three hundred and sixty-six pounds fourteen shillings and three pence received from the Committee of the Robert Philp Scholarship on the 12th day of March, 1912, for the purposes hereinafter appearing, that is to say:—

2. Upon trust to invest the said sum in the name of the University of Queensland in any investment in which Trustees are from time to time permitted by the law of Queensland to invest, with power to transpose or vary such investment into or for others of the same or a like nature and hereby authorised. Upon trust, further, to receive and collect the dividends, interest, and annual income arising therefrom, and pay the same in each and every year to such graduate in Science of the University of Queensland, to be called " The Robert Philp Scholar," who shall appear by the certificate of the Professor of Physics of the said University to have shown the greatest general proficiency in Physics throughout his course and to be deserving of the award.

The Robert Philp Scholarship shall not be awarded to a candidate who fails to reach second class standard in the Final Honours Examination in Physics.

The certificate of the said Professor of Physics shall be given to the Registrar of the University as soon after the Final Examinations in each year as is practicable, and shall be absolutely final and binding upon all persons whomsoever.

The name of the successful candidate for the scholarship shall be announced as soon as possible after the results of the Final Honours Examination.

The Robert Philp Scholar shall carry out Research work at the University under the direction of the Professor of Physics:

Provided that if at any time hereafter there shall be established in the University of Queensland a Faculty of Agriculture, or there shall be in the opinion of the Senate suitable facilities for the teaching of Agriculture available at or in connection with the University, then and in that case the University of Queensland shall stand possessed of the said sum, and shall receive and collect the said dividends, interest, and annual income, upon further trust to pay the same in each and every year to such graduate in Science of the University, to be called "The Robert Philp Scholar," who shall appear by the certificate of the Chairman of the Faculty, or Head of the Department concerned, as may be the case, of the said University to have shown the greatest general proficiency in Agriculture throughout the course and to be deserving of the award.

1913.—No candidate.
1914.—No candidate.
1915.—No candidate.
1916.—No candidate.
1917.—No candidate.
1918.—No candidate.
1919.—No candidate.

PASSAGES BY THE ORIENT LINE.

In August, 1910, the Orient Line of Royal Mail Steamers, through their General Manager in Sydney, the late Sir Kenneth Anderson, informed the Senate that the Orient Line would be prepared, when the University had reached the stage of conferring degrees upon students who had gone through any prescribed course of study, to offer first-class passages to Europe in vessels of the line to two such graduates annually.

The disposition of this privilege was left entirely in the discretion of the Senate, but the Managers of the line have expressed the hope that, as the object of the offer was to multiply the opportunities for education by travel, the privilege would preferentially be conferred on graduates who, though wishing to go to Europe, were debarred from doing so by reason of the expense involved rather than on the holders of any particular University distinction as such, or on graduates who are able to dispense with such assistance and would go in any case.

This generous offer was accepted by the Senate, and the line are now prepared to grant free passages to and from London by steamers of the line in accordance with the above conditions.

The passages will be available during the months of May to September, both inclusive, to Europe; and during the months of March to July, both inclusive, outwards from Europe. The passages are available for three years from date of leaving to date of return to Australia.

THE RHODES SCHOLARSHIPS.

REGULATIONS APPROVED BY THE TRUSTEES FOR THE ELECTION OF SCHOLARS IN QUEENSLAND, 1913.

Committee of Selection:

The Committee of Selection shall consist of—

(*a*) His Excellency the Governor (in his private capacity), Chairman;
(*b*) The Chief Justice of Queensland;
(*c*) The Chancellor;
(*d*) The President of the Board of Faculties;
(*e*) Two Members to be chosen annually by the Senate:

Provided that—

(i.) If the Governor or Chief Justice is Chancellor, the Senate shall choose three members instead of two;

(ii.) The Teaching Staff shall not be represented on the Committee by more than two members.

No scholarship shall be awarded to any candidate unless he shall have obtained the votes of four members of the Committee.

If four members cannot agree in the choice of a candidate, the right of selection shall vest in the Governor, who shall be guided in making the selection by the same consideration as should determine the Committee in their choice.

Eligibility of Candidates.

1. Candidates shall be British subjects and unmarried. They must have passed their eighteenth birthday, but not have passed their twenty-fifth birthday, on 1st October of the year in which they are elected.

2. No candidate shall be eligible for election who has been at a University for more than three years. No person

who has taken advantage of a Queensland Exhibition shall be eligible for selection, unless he consent to resign the Queensland Exhibition on election to a Rhodes Scholarship.

3. After the year 1900, candidates shall have passed the Responsions Examination of the University of Oxford or some examination accepted by the University as equivalent, or they shall have qualified themselves to be excused from Responsions under the Colonial Universities Statute.

4. Every candidate shall, for the period of five years immediately preceding his application, have had his home in Queensland, or if his home has not been in Queensland for the prescribed period, or at all, shall have attended a secondary school or schools in Queensland continuously for three years.

Method of Selection.

1. In accordance with the wish of Mr. Rhodes, the Trustees desire that, "in the selection of a student to a Scholarship, regard shall be had—(i.) to his literary and scholastic attainments; (ii.) his fondness for and success in manly outdoor sports; (iii.) his qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness, and fellowship; (iv.) his exhibition, during school days, of moral force of character and of instincts to lead and take an interest in his schoolmates." Mr. Rhodes suggested that (ii.) and (iii.) should be decided in any school or college by the votes of fellow-students, and (iv.) by the head of the school or college.

Where circumstances render it impracticable to carry out the letter of these suggestions, the Trustees hope that every effort will be made to give effect to their spirit, but desire it to be understood that the final decision must rest with the Committee of Selection.

In order to hold as closely as possible to the suggestion of Mr. Rhodes that masters and fellow-students should have some voice in the selection of a scholar, the Trustees think

that the Committee of Selection should ask schools presenting a number of candidates to do so in the order of their preference.

2. To aid the Committee in making a choice, each candidate is required to furnish to the Chairman of the Committee of Selection:—

(A) A certificate showing that he is within the eligible limits of age;

(B) A certificate from the head of his school or college, stating that the candidate is, in his opinion, able to pass the Responsions Examination at Oxford or its equivalent;

(C) Such certificates and testimonials from his masters at school or his professors at college, or any other persons, as seem best adapted to guide the judgment of the Committee in selecting the candidate.

3. Should it seem advisable, the Committee of Selection is free to apply to the candidates or any selected number of them such further intellectual or other tests as it may consider necessary for purposes of comparison. No candidate shall be finally elected without a personal interview.

4. The Chairman of the Committee of Selection will at once notify to the Trustees the name of the elected Scholar, and will forward to Mr. Wylie, the representative of the Trustees at Oxford, all the credentials and testimonials on which the selection was made. The elected Scholar will then be furnished by the Chairman of the Committee of Selection with a Memorandum, prepared by the representative of the Trustees at Oxford, of the steps necessary to have his name enrolled at one of the Colleges of the University.

5. The Scholarship will be paid in four quarterly instalments: the first on beginning residence at Oxford, and thereafter terminally on the certificate of the College that the work and conduct of the student have been satisfactory—

without such a certificate the Scholarship lapses. A Scholarship which lapses either from the failure of a student to secure a college certificate, from resignation, from marriage, or from any other cause, will not be filled up until the year in which it would naturally expire. This provision is made in order not to interfere with the rota of succeeding scholars.

Rhodes Scholars.

1912.—Rhubert William Henry Mellor.
1913.—Reginald John Cassidy.
1914.—Allan Warren Linford Row.
1915.—John Norman Radcliffe.
1916.—James Hickson Baxter.
1917.—Gordon Allan Dunbar.
1918.—Frederick Woolnough Paterson
1919.—Victor Grenning.
1920.—Robert Roy Pitty Barbour.
1921.—Thomas Lawton.

THE WALTER AND ELIZA HALL ENGINEERING FELLOWSHIP.

Established by the Trustees of the Walter and Eliza Hall Trust.

The following conditions have been approved:—

1. *Name.*—The name of the proposed endowment shall be " The Walter and Eliza Hall Engineering Fellowship."

2. *Object.*—The object of the Fellowship is to promote the interests of Engineering Science and Practice in Australia, by enabling distinguished graduates in Engineering of the University of Queensland to obtain special experience abroad and subsequently to return and give the advantage of such experience to the Engineering School of the University.

3. *Amount and Tenure.*—The Fellowship is of the annual value of £300, payable quarterly, and is available for

a maximum period of three years, the first two of which shall be spent abroad, and the third at the University of Queensland.

4. *Conditions of Award.*—The Fellowship shall be awarded in every third year, in the first term, by the Senate of the University of Queensland, acting on the nomination of the Faculty of Engineering, to a graduate in Engineering of the University of Queensland of not more than four years' standing, reckoned from his qualification, by examination, for his first degree in Engineering. Ordinarily it is expected that the Fellowship will be awarded to a graduate of either two or three years' standing.

5. There will be no special examination for appointment to these Fellowships, but in making the appointment consideration will be given to—

(*a*) The work of the applicant during his entire undergraduate course;

(*b*) His present interest in, and proved capacity for, Engineering Research, as indicated by his work subsequent to graduation; and

(*c*) His general capacity for advancing those interests which it is the object of the Fellowship to foster.

6. *Work of Fellows.*—During the first two years' tenure of these Fellowships, the holder thereof shall follow out such a course of work as shall be approved by the Senate on the recommendation of the Faculty of Engineering. This two years' course of work shall be carried out in such—

(*a*) Technical manufacturing works;

(*b*) Engineering research laboratories; or

(*c*) In connection with such special engineering enterprises;

as may be approved.

7. The third year's tenure of the Fellowship shall be spent in the Engineering School of the University of Queens-

land, delivering such special lectures and demonstrations as shall be approved by the Senate and doing such other approved work as shall directly further the objects for which the Fellowship has been established.

8. No Fellow shall be permitted to occupy any salaried position or undertake any employment for payment during his Fellowship without the special sanction of the Senate of the University. Each Fellow shall transmit to the Senate of the University half-yearly a precise report as to the progress of his work, and the tenure of the Fellowship shall be subject to these reports being judged as satisfactory. At the conclusion of the tenure of the Fellowship, each Fellow shall submit a paper or report embodying the results of his investigation or experience.

9. In the case of all work published in the form of papers or reports, as a result of holding one of these Fellowships, the Fellow shall distinctly indicate in his publications that he is the holder of a "Walter and Eliza Hall Fellowship" of the University of Queensland.

10. Any further regualtions which may be found necessary may be prescribed by the Senate from time to time.

Walter and Eliza Hall Engineering Fellow.

1915—Ronald Martin Wilson.

1919.—Noel Crawford Aitken.

THE WALTER AND ELIZA HALL FELLOWSHIP IN ECONOMIC BIOLOGY.

Established by the Trustees of the Walter and Eliza Hall Trust.

The following conditions have been approved:—

1. *Name.*—There shall be in the University of Queensland a Fellowship to be called "The Walter and Eliza Hall Fellowship in Economic Biology."

2. *Object.*—The object of the Fellowship is the promotion of original research in Economic Biology in connection with the Department of Biology in the University.

3. *Value.*—The Fellowship shall be of the annual value of £500, of which the sum of £400 shall be paid to the person holding the Fellowship, and £100 shall be devoted to the purchase of material and equipment and to defray the travelling and other expenses necessary for the prosecution of the research or researches undertaken by the holder of the Fellowship.

4. *Term.*—The Fellowship shall be held for a term of two years from the date of foundation, and may be renewed by the Senate. It may, subject to the approval of the Trustees of the Walter and Eliza Hall Trust, be held with any Professorship or Lectureship in the University, and the Professorship or Lectureship shall not exceed the yearly salary fixed by the Senate for that Professorship or Lectureship, and, in the event of the holder being a Professor or Lecturer, the balance of the combined salary over and above the yearly salary of such Professor or Lecturer shall be devoted to the salary of one or more assistants during the tenure of the Fellowship by that Professor or Lecturer.

5. The Fellow shall do such work and conduct such investigations and researches in Economic Biology as the Professor of Biology may approve. He shall, if a Professor or Lecturer, devote a substantial portion of his time to teaching work, and, if the head of a Department, to the administration of his Department.

6. The Fellow may be called upon to give a number of lectures in the University on a theme connected with his special research on the understanding that the number of lectures to be given in any year shall not exceed fifteen.

7. *Annual Report.*—The Fellow shall annually report to the Senate the result of his year's investigations, and a copy of such report shall be submitted forthwith to the Trustees of the Walter and Eliza Hall Trust.

8. Unless with the approval of the Senate, no work shall be carried out except in the laboratories of the University.

9. If it shall appear to the Senate that the teaching efficiency of any Professor or Lecturer holding the Fellowship is impaired by his duties under Clause 5, the Senate may determine the tenure of the Fellowship and appoint another Fellow.

1915-1917.—Thomas Harvey Johnston, M.A., D.Sc.
1918-1919.—Mabel Josephine Bancroft, B.Sc.
1920-1921.—Oscar Werner Tiegs, B.Sc.

THE JOHN THOMSON LECTURESHIP.

Founded in 1915 by a gift of £200 from the Queensland University Extension Fund.

Conditions.

1. The said £200 shall form the endowment for a Lectureship to be called "The John Thomson Lectureship," and shall be invested as the Senate may from time to time direct.

2. The Lectureship shall be an annual appointment.

3. The duty of the Lecturer shall be to deliver a course of not more than three public Lectures on some approved subject.

4. The Board of Faculties shall annually, at its April meeting, make recommendations to the Senate as to the Lecturer and the subject of the Lecture Course for the year.

1916.—H. Y. Braddon.
1917.—Elton Mayo, B.A.
1918.—J. J. C. Bradfield, M.E.
1919.—Bertram Dillon Steele, D.Sc., F.R.S.
1920.—No appointment.
1921.—Sir Robert Randolph Garran, K.C.M.G., M.A.

THE SIR THOMAS McILWRAITH ENGINEERING SCHOLARSHIPS.

At a public meeting held in Brisbane on the 17th September, 1900, an Executive was appointed to take steps to establish a Memorial to the Honourable Sir Thomas McIlwraith, K.C.M.G., LL.D., three times Premier of Queensland, who died on 17th July, 1900, in recognition of his long and valuable services to the Colony of Queensland and of the far-seeing and broad spirit of statesmanship displayed by him in the interests not only of Queensland but of Australasia and the Empire generally.

The Executive determined that the Memorial should take the form of Scholarships in the University, to be called "The Sir Thomas McIlwraith Engineering Scholarships," and the sum of £2,670 8s. 6d. was received from public subscriptions for the establishment of the Scholarships.

This sum was handed to the University under the terms of a Trust Deed dated the 16th May, 1916. These terms were subsequently embodied in a Statute of the University.

Statute relating to the Sir Thomas McIlwraith Scholarships.

The University shall stand possessed of the said sum of two thousand six hundred and seventy pounds eight shillings and six pence received from the Executive of the Sir Thomas McIlwraith Memorial on the sixteenth day of May, 1916, and such other sums, if any, which may hereafter be received by way of further contributions to the said Memorial, hereinafter called "The Fund," upon the trusts and for the purposes hereinafter set out, that is to say—

1. Upon trust to invest the Fund and any accumulation of unexpended income, in the name of the University of Queensland, in any investment in which Trustees are from

time to time permitted by the law of Queensland to invest trust funds, with power to transpose or vary any such into or for others of the same or a like nature and hereby authorised.

2. Upon trust further to receive and collect the dividends, interest, and annual income arising therefrom and pay the same in each and every year to a student or students, undergraduate or undergraduates, graduate or graduates in Engineering of the University of Queensland, each of whom shall be termed "Sir Thomas McIlwraith Engineering Scholar," and in accordance with the following terms and conditions:—

I. There shall be two or more Scholarships in the University of Queensland to be called "The Sir Thomas McIlwraith Engineering Scholarships."

II. Each of the Scholarships shall be tenable for one year, and shall be of the annual value of £40; and the balance of the income arising from the fund from time to time, after providing for the Scholarships in each year, shall be added to the Fund for accumulation until the income of the Fund is sufficient to provide for a further Scholarship or Scholarships of the same value.

III. The Scholarships shall be open to—

(*a*) Evening students of the Faculty of Engineering who have completed the work entitling them to enter the third year of the course for the Degree of Bachelors of Engineering as day students;

(*b*) Day students of the Faculty of Engineering who have completed the first three years of the course for the Degree of Bachelor of Engineering and are about to enter on the fourth year of that course.

IV. The candidates' general suitability and their record throughout their course shall be considered in awarding the Scholarships.

V. The emoluments of the Scholarships shall be paid in three equal terminal instalments on production of a certificate from the Professor of Engineering, addressed to the Registrar, of satisfactory work during the term.

VI. The Scholarships shall be awarded on the recommendation of the Faculty of Engineering.

VII. In the event of any of the Scholarships lapsing or the emoluments thereof ceasing to become payable to any person to whom one of the Scholarships has been awarded, the Senate may, on the recommendation of the Faculty of Engineering, appoint some qualified person to hold the Scholarship for the balance of the year, or may resolve that such emoluments be added to the Fund and left to accumulate as above mentioned.

VIII. It shall be lawful for the Senate of the University at any time, by resolution, to alter or amend the above conditions.

IX. If in any year any Scholarship or Scholarships are not awarded in accordance with the above conditions or any alteration or amendment thereof, then the amount of any such Scholarship or Scholarships for that year shall fall into and be deemed to form part of the capital money of the Fund, and shall be dealt with accordingly.

X. Any certificate given to the Registrar of the University pursuant to such Statute shall be absolutely final and binding upon all parties whomsoever.

1918.—Noel Crawford Aitken. Charles Banks Mott.

1919.—Othman Frank Blakey. Charles Raff Paterson.

1920.—Daniel Eric Baldwin. Claude Muller Longbottom.

1921.—George William Lackey. Alfred McCulloch. Clifford Mason Calder, Eric Gordon Wagner (equal).

THE FORD MEMORIAL PRIZE.

Founded in 1916 by a gift of £100 from the Queensland United Licensed Victuallers' Association to found a medal to be called the "Ford Memorial Medal," in commemoration of Lieutenant S. K. Ford and Corporal T. W. Ford (brothers), both of whom lost their lives in the defence of the Empire.

Conditions.

1. The Ford Memorial Medal shall be open for competition among the undergraduates of the University.

2. The medal shall be awarded annually to the author of the best English poem on a given theme or in a given form.

3. Each poem shall be typewritten. The name of the candidate shall not appear on the poem, but a motto shall be attached thereto. Along with the poem shall be sent a sealed envelope containing the name of the candidate and the motto adopted by him. Such envelope shall not be opened until the poems have been judged.

4. The Board of Faculties shall, before the end of the second term in each year, announce the subject or form for the following year.

5. The Board of Faculties shall recommend annually to the Senate the Examiners, who, if Professors or Lecturers in the University, shall act accordingly.

6. Competing poems shall be sent to the Registrar not later than the end of second term in each year.

7. If in the opinion of the examiners the competing poems in any year be unworthy of the prize, the prize shall not be awarded in that year, and the amount thereof shall be added to and shall become part of the principal sum.

The subject of the Prize for 1922:

(1) A Sestina—any topic; or

(2) A Sonnet—Shakespearian form, any topic.

1918.—No award.

1919.—Idrisyn Frederic Jones.

1920.—Colin William Hugh Bingham.

1921.—No award.

ANNUAL EXAMINATIONS, 1920-21.

FACULTY OF ARTS.

M = Passed with Merit; P = Passed.

The following completed the First Year Examination :—

Bleakley, Dorothy Theodora: Latin I.—P; English I.—P; Logic and Psychology I.—P.

Boylan, Joseph Patrick: Latin I.—P; Logic and Psychology I.—P; Pure Mathematics I.—M; Applied Mathematics I.—M.

Boulton, Edward Arthur Noel: Latin I.—P; Logic and Psychology I.—P; Pure Mathematics I.—P.

Campbell, Ethel Aplin: Latin I.—P; English I.—P; French I.—P.

Cherry, Mabel Dorothy: Latin I.—P; English I.—P; Logic and Psychology I.—P.

Dow, Lillias Mary: Latin I.—P; English I.—P; Logic and Psychology I.—P; Pure Mathematics I.—M.

Drake, Constance V.: English I.—P; Logic and Psychology I.—P: Biology I.—P.

Fryer, John Denis: Latin I.—M; English I.—M; French I.—P; Logic and Psychology I.—P.

George, Blanche Evelyn Ruth: Latin I.—P; English I.—P; French I.—P.

Graham, Bessie Jean: Latin I.—P; English I.—M; British History I.—M.

Hirst, William: English I.—P; French I.—P; Pure Mathematics I.—P.

Hooper, Charles Sinclair: Latin I.—P; Logic and Psychology I.—P; Pure Mathematics I.—P.

Hulbert, Madalen Kitty Ravenhill: Latin I.—P; Logic and Psychology I.—P; Pure Mathematics I.—P; Applied Mathematics I.—P.

Jones, Edith Miriam: Latin I.—M; Greek I.—M; English I.—P; Logic and Psychology I.—P.

Lilley, Myrtle Florence: Latin I.—P; English I.—P; French I.—P; Logic and Psychology I.—P.

MacBrair, Maud Constance: English I.—P; Logic and Psychology I.—P; Pure Mathematics I.—P.

MacDonnell, Cecil Robert Harkness: Latin I.—P; Greek I.—P; German I.—P.

Macpherson, Margaret Aitken: Latin I.—P; Pure Mathematics I.—P; Applied Mathematics I.—P.

McCray, Annie Vida: English I.—P; Logic and Psychology I.—P; Pure Mathematics I.—P; Applied Mathematics I.—P.

McGregor, Katharine Elizabeth: Latin I.—M; Greek I.—M; French I.—P; Logic and Psychology I.—P.

Moore, Charlotte Ruth: Latin I.—P; French I.—P; Logic and Psychology I.—P.

Morris, Una Sirett: Latin I.—P; English I.—P; Pure Mathematics I.—P; Applied Mathematics I.—P.

Penny, Helen Lenore Kathleen: English I.—M; Logic and Psychology I.—P; Pure Mathematics I.—M.

Ruddell, William Alexander: Latin I.—P; English I.—P; British History I.—P.

The following completed the Second Year Examination:—

Arnell, Vera May: Latin I.—P; French II.—P; Education—P.

Brookes, Meta: French II.—P; Logic and Psychology I.—P; Geology and Mineralogy I.—P.

Brookes, Pender Osmond: British History II.—P; Constitutional History and Political Science I.—P; Economics—P; Ethics and Metaphysics—P.

Burton, Herbert: Latin II.—P; English II.—M; French II.—M.

Calford, Eileen Rotha: French I.—P; Education—P; Pure Mathematics I.—P.

Campbell, Edna Edith: Latin II.—P; English I.—P; British History I.—P.

Catchpoole, Violet Ida: English II.—P; French II.—P; Logic and Psychology I.—P.

Daniells, Mavis Lillian: English II.—P; French I.—P; Pure Mathematics II.—M.

Dancer, William: Latin II.—P; Pure Mathematics II.—M; Applied Mathematics II.—P.

Douglas, Walter Mather: Economics—P; Logic and Psychology II.—P; Ethics and Metaphysics—M.

Gee, Eric Cameron Craig: Latin II.—P; Greek II.—P; Ethics and Metaphysics—P.

Greenhalgh, Henry: Education—P; Pure Mathematics II.—M; Applied Mathematics II.—P.

Greet, Victor Edgar: Logic and Psychology I.—M; Pure Mathematics II.—M; Applied Mathematics I.—P.

Houston, Vivian Maud: Latin II.—P; Greek II.—P; Ethics and Metaphysics—P; Education—P.

Roberts, Henry Emmanuel: Latin II.—M; Greek II.—P; Ethics and Metaphysics—P.

Shepherd, Joyce Cicely: French II.—P; Education—P; Pure Mathematics I.—M.

Shewan, Eleanor Sarah: Latin II.—P; Greek II.—P; Ethics and Metaphysics—P.

Simpson, Tom: Latin I.—P; Logic and Psychology II.—P; Pure Mathematics II.—P.

Smith, Ernest Henry: Latin II.—P; British History I.—P; Biology I.—M.

Smith, May Mildred: British History II.—P; Constitutional History and Political Science I.—M; Economics—M; Ethics and Metaphysics—M.

Sole, Amy Ida Margaret: Latin II.—P; Greek II.—P; Ethics and Metaphysics—P; Education—P.

Stemp, Leonard: Latin II.—P; English I.—P; Logic and Psychology II.—P.

Stephensen, Percy Reginald; Constitutional History and Political Science I.—P; Logic and Psychology I.—P; Biology I.—P.

Thompson, Elizabeth Evelyn: Logic and Psychology I.—P; Pure Mathematics II.—P; Applied Mathematics I.—P.

Wendorf, Burnett William: Economics—P; Logic and Psychology II.—M; Ethics and Metaphysics—P.

The following completed the Third Year Examination:—

Arundel, Margaret Effie Overell: English II.—P; French II.—P; Economics—M.

Ashley, Edith Helen: Economics—P; Logic and Psychology II.—P; Education—P.

Bale, Theo. John: Constitutional History and Political Science I.—P; Pure Mathematics II.—P; Applied Mathematics II.—P.

Barbour, Robert Roy Pitty: Latin II.—M; Greek II.—M; Ancient History—P.

Cran, Sydney: French II.—P; Economics—P; Logic and Psychology II.—P.

Cuthbertson, Madgie: Latin II.—P; British History II.—P.; Economics—P.

Martin, Helen: English II—P; British History I.—P; Education—P.

Martin, Zoe Estelle: Economics—P; Education—P; Pure Mathematics II.—P.

Seaward, Margaret: English II.—P; Economics—P; Logic and Psychology II.—P.

Shipley, Elsie Marion Douglas: English II.—P; British History II.—P; Education—P.

Spark, Dorothy Mildred Hester: English II.—P; British History I.—P; Education—P.

Withecombe, Hilda Harris: Latin II.—P; British History I.—P; Applied Mathematics II.—P.

Evening Students.

The following received Credit for the subjects shown:—

Adermann, Ernest Philip: English I.—P; Logic and Psychology I.—P.

Blumberg, Mina Feigel Breine: Greek II.—P; Pure Mathematics I.—P.

Donovan, Maurice Patrick: Pure Mathematics I.—P; Geology and Mineralogy I.—P.

Gripp, William Reinhold: Latin I.—P; English I.—P.

Jones, Charles Herbert: English I.—P; Geology and Mineralogy I.—P.

Loney, Eric Absalom: Latin I.—P; Pure Mathematics II.—M.

Ludgate, Henrietta Blanche: Latin I.—P; Economics—P.

MacHugh, Christina Gladys: English I.—P; French I.—P.

Sampson, Royal: British History I.—P; Pure Mathematics I.—P.

Shiels, Bernard Mark: Latin I.—P; Pure Mathematics I.—P.

Trudgian, Wilfred John: Logic and Psychology I.—P; Pure Mathematics I.—M.

External Students.

The following received Credit for the subjects shown:—

Bainbridge, Thomas: English I.—P; Logic and Psychology I—P.

Barry, Thomas Maurice: English II.—P; British History I.—P; Ethics and Metaphysics—P.

Calford, Lilian Alberta: French II.—P; Logic and Psychology I.—P.

Church, Mabel Maud: English I.—P; Education—P.

Cunningham, Bruce: English I.—P; Pure Mathematics I.—P.

Deeney, John Chrysostom: Logic and Psychology I.—P; Applied Mathematics I.—P.

Florence, John Neill: British History I.—P; Ethics and Meta physics—P.

Francis, Eric: English I.—P; Pure Mathematics I.—M; Applied Mathematics I.—P.

Harwood, Samuel James: British History II.—P; Logic and Psychology II.—P.

Irvine, Charles Robert: Pure Mathematics I.—P.

Jenkins, Harry: Latin I.—P; Education—P; Applied Mathematics I.—P.

Kennedy, Sidney George: English I.—P; Logic and Psychology I.—P.

Marsden, Albert John: Latin I.—P; British History I.—P.

Moriarty, Patrick Joseph: Logic and Psychology I.—P; Pure Mathematics I.—P; Applied Mathematics I.—P.

Robertson, Robert: Latin I.—P; French II.—P; Pure Mathematics I.—P.

Vandeleur, Michael Ambrose: English I.—P; Ethics and Metaphysics—P.

FACULTY OF SCIENCE.

The following completed the First Year Examination:—

Barrie, Nita: Pure Mathematics I.—P; Biology I.—P; Chemistry I.—P; Physics I.—P.

Bartholomew, Rose Isobel: Pure Mathematics I.—P; Biology I.—P; Chemistry I.—P; Physics I.—P.

Cleary, John Joseph: Pure Mathematics I.—M; Biology I.—P; Chemistry I.—P; Physics I.—P.

Halberstater, Leslie Joseph: Pure Mathematics I.—P; Biology I.—P; Chemistry I.—P; Physics I.—P.

Harris, Vivian E. G.: Pure Mathematics I.—P; Chemistry I.—P; Geology and Mineralogy I.—M; Physics I.—P.

Henderson, William George: Pure Mathematics I.—M; Applied Mathematics I.—M; Chemistry I.—P; Physics I.—M.

Holdaway, Frederick George: Pure Mathematics I.—P; Biology I.—P; Chemistry I.—P; Physics I.—P.

Jacobs, Leslie Allerton: Pure Mathematics I.—M; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—P.

Law, Leila: Pure Mathematics I.—M; Biology I.—P; Chemistry I.—P; Physics I.—P.

Lynam, John Finlay: Pure Mathematics I.—P; Applied Mathematics I.—M; Chemistry I.—P; Physics I.—P.

Martin, Thomas Vincent: Pure Mathematics I.—P; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—P.

Mills, Robert Leslie: Pure Mathematics I.—M; Applied Mathematics I.—P; Chemistry I.—P.; Physics I.—P.

Nihill, Robert: Biology I.—P; Chemistry I.—P; Geology and Mineralogy I.—P.

O'Hara, Redmond: Pure Mathematics I.—P; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—P.

Powell, Lytton Redvers Baden: Pure Mathematics I.—P; Chemistry I.—P; Geology and Mineralogy I.—P; Physics I.—P.

Roberts, Frederick Hugh: Pure Mathematics I.—P; Biology I.—M; Chemistry I.—M; Physics I.—P.

Roberts, Herbert Spencer: Pure Mathematics I.—P; Biology I.—M; Chemistry I.—P; Physics I.—P.

Schultz, Percy Charles: Pure Mathematics I.—P; Chemistry I.—P; Geology and Mineralogy I.—P; Physics I.—P.

Simmonds, John Howard: Pure Mathematics I.—P; Biology I.—P; Chemistry I.—P; Physics I.—P.

Sueyek, George Edward: Pure Mathematics I.—P; Chemistry I.—P; Geology and Mineralogy I.—P; Physics I.—P.

Yates, Dorothy Alma: Pure Mathematics I.—P; Chemistry I.—P; Geology and Mineralogy I.—P; Physics I.—P.

Note.—The following obtained Credit in the subjects shown for the purposes of Courses at other Universities:—

Bennett, Aubrey George: Biology I.—P; Chemistry I.—P; Physics I.—P.

Guinane, Francis Robert: Biology I.—P; Chemistry I.—P; Physics I.—P.

Julius, Solomon: Biology I.—P; Chemistry I.—P; Physics I.—P.

Larwill, James Alfred: Biology I.—P; Chemistry I.—P; Physics I.—P.

Maunder, Harold Arthur: Biology I.—P; Chemistry I.—P; Physics I.—P.

Mayes, Alexander Dunbar Aitken: Biology I.—P; Chemistry I.—P; Physics I.—P.

Reisz, Laurence Ruth: Biology I.—P; Chemistry I.—P; Physics I.—P.

Spedding, Ronald: Biology I.—P; Chemistry I.—P; Physics I.—P.

Uhr, Clive Wentworth: Biology I.—P; Chemistry I.—P; Physics I.—P.

The following completed the Second Year Examination:—

Biggs, John Emmanuel: Pure Mathematics II.—P; Chemistry II.—P; Physics II.—P.

Birkbeck, Julia: Pure Mathematics II.—P; Chemistry II.—P; Physics II.—P.

Fisher, Gordon Arthur: Pure Mathematics II.—P; Biology II.—P; Chemistry II.—P.

Heenan, Leonard Thomas: Pure Mathematics II.—P; Applied Mathematics II.—P; Physics II.—P.

Muir, Elsie Winifred: Pure Mathematics II.—P; Chemistry II.—P; Geology and Mineralogy II.—P.

Weston, Ivy: Pure Mathematics II.—P; Chemistry II.—P; Physics II.—P.

Whitehouse, Frederick William: Pure Mathematics II.—P; Chemistry II.—M; Geology and Mineralogy II.—M.

The following completed the Third Year Examination:—

Broe, James Joseph: Chemistry III.—P.

Clarkson, Victor Charles: Chemistry III.—P; Geology and Mineralogy III.—P.

Forster, Bessie Tomson: Physics III.—P.

Gee, Eric Gibson: Chemistry III.—P.

George, Noel Francis: Biology III.—P; Chemistry III.—P.

Johnson, Horace William: Biology III.—P; Chemistry III.—P.

Lahey, Mavis Elizabeth Alicia: Biology III.—P; Geology and Mineralogy III.—P.

Matthews, Irene Lillian: Chemistry III.—P.

McKeon, Michael Leonard de Vaney: Biology III.—P; Chemistry III.—P.

McLean, Charles Robert: Biology III.—P; Chemistry III.—P.

O'Keeffe, Richard Joseph: Chemistry III.—P; Geology and Mineralogy III.—P.

Percy, Roger Arnold: Physics III.—P.

The following received Credit for the subjects shown:—

Bell, Arthur Frank: Biology I.—P; Chemistry I.—P; Physics I.—P.

Boulton, Alfred James: Chemistry I.—P; Geology and Mineralogy I.—P.

Brown, Stanley George: Chemistry I.—M.

Cundith, Victor Reginald: Chemistry I.—P; Geology and Mineralogy I.—P.

Fien, Henry Paul George: Pure Mathematics II.—P; Applied Mathematics II.—P.

Fisher, Eric Maxwell: Physics III.—P.

Galley, Frederick: Pure Mathematics II.—P; Physics II.—P.

Hurwood, Alan Spence: Chemistry III.—P.

Kerr, Henry William: Pure Mathematics I.—P; Chemistry I.—M; Geology and Mineralogy I.—M; Physics I.—P.

Lendrum, John Richard: Geology and Mineralogy II.—P.

Riddell, George Thomas: Pure Mathematics I.—P; Chemistry I.—P.

Wiley, Waldo Jackson: Chemistry II.—M.

School of Applied Science.

The following completed the First Year Examination:—

Bennett, Frederick Charles: Pure Mathematics I.—M; Applied Mathematics I.—M; Chemistry I.—M; Physics I.—M; Geology and Mineralogy I.—M; Engineering Drawing and Design I.—P; Descriptive Geometry—P.

Bryson, Alexander: Pure Mathematics I.—P; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—M; Geology and Mineralogy I.—P; Engineering Drawing and Design I.—P; Descriptive Geometry—P.

The following completed the Second Year Examination:—

Craigie, Norman Reyland Maxwell: Pure Mathematics II.—P; Chemistry II.—M; Physics II.—P; Applied Mechanics—P; Heat Engines I.—P.

Henderson, Douglas: Pure Mathematics II.—P; Chemistry II.—P; Physics II.—P; Applied Mechanics—P; Heat Engines I.—P.

Irvine, Fergus Albert: Pure Mathematics II.—P; Applied Mathematics II.—M; Chemistry II.—M; Physics II.—M; Applied Mechanics—P; Heat Engines I.—P.

The following completed the Third Year Examination:—

Bennett, Norman: Hydraulics I.—M; Chemistry III.—M; Economic Geology—M; Drawing and Design II.—P; Civil Engineering I.—P.

Duus, Earle Wright Jessen: Hydraulics I.—P; Chemistry III.—P; Economic Geology—M; Drawing and Design II.—P; Civil Engineering I.—P.

The following completed the Fourth Year Examination:—

Edmiston, Ernest Stewart: Applied Chemistry—P; Electrical Engineering (*a*)—P; Engineering Design III.—P.

FACULTY OF ENGINEERING.

The following completed the First Year Examination:—

Barlow, Frank Herbert: Pure Mathematics I.—P; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—P; Geology and Mineralogy I.—P; Engineering Drawing and Design I.—P; Descriptive Geometry—P.

Berry, John Holton: Pure Mathematics I.—P; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—P; Geology and Mineralogy I.—P; Engineering Drawing and Design I.—P; Descriptive Geometry—P.

Cooper, James Reginald; Pure Mathematics I.—M; Applied Mathematics I.—M; Chemistry I.—M; Physics I.—M; Geology and Mineralogy I.—P; Engineering Drawing and Design I.—P; Descriptive Geometry—M.

Dickson, James Ramsey: Pure Mathematics I.—P; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—P; Geology and Mineralogy I.—P; Engineering Drawing and Design I.—P; Descriptive Geometry—P.

Dimmock, Edmund Newey: Pure Mathematics I.—P; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—P; Geology and Mineralogy I.—P; Engineering Drawing and Design I.—P; Descriptive Geometry—P.

Freeman, Eric Bernard: Pure Mathematics I.—P; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—P; Geology and Mineralogy I.—P; Engineering Drawing and Design I.—P; Descriptive Geometry—P.

Gaydon, Francis Alexander: Pure Mathematics I.—P; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—P; Geology and Mineralogy I.—P; Engineering Drawing and Design I.—P; Descriptive Geometry—P.

McCulloch, Harold: Pure Mathematics I.—M; Applied Mathematics I.—M; Chemistry I.—M; Physics I.—M; Geology and Mineralogy I.—P; Engineering Drawing and Design I.—P; Descriptive Geometry—P.

Schmidt, Alfred Ernest: Pure Mathematics I.—P; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—P; Geology and Mineralogy I.—P; Engineering Drawing and Design I.—P; Descriptive Geometry—P.

Walker, Sydney Edward Arnold: Pure Mathematics I.—P; Applied Mathematics I.—P; Chemistry I.—P; Physics I.—P; Geology and Mineralogy I.—P; Engineering Drawing and Design I.—P; Descriptive Geometry—P.

Williams, Charles Warman: Pure Mathematics I.—P; Applied Mathematics I.—M; Chemistry I.—M; Physics I.—M; Geology and Mineralogy I.—M; Engineering Drawing and Design I.—P; Descriptive Geometry—M.

The following completed the Second Year Examination:—

Anthony, Percy Alexander William: Pure Mathematics II.—P; Applied Mathematics II.—P; Chemistry II.—M; Physics II.—P; Engineering Drawing and Design II.—P; Applied Mechanics I.—P; Heat Engines I.—P.

Bailey, George Squires: Pure Mathematics II.—P; Applied Mathematics II.—P; Chemistry II.—P; Physics II.—P; Engineering Drawing and Design II.—P; Applied Mechanics I.—P; Heat Engines I.—P.

Boulton, George Oswald: Pure Mathematics II.—P; Applied Mathematics II.—P; Chemistry II.—P; Physics II.—M; Engineering Drawing and Design II.—M; Applied Mechanics I.—P; Heat Engines I.—M.

Dowrie, James Wilson: Pure Mathematics II.—P; Applied Mathematics II.—P; Chemistry II.—P; Physics II.—P; Engineering Drawing and Design II.—M; Applied Mechanics I.—P; Heat Engines I.—P.

Dunstan, Frank Wheatley: Pure Mathematics II.—P; Applied Mathematics II.—P; Chemistry II.—P; Physics II.—M; Engineering Drawing and Design II.—P; Applied Mechanics I.—P; Heat Engines I.—P.

Hall, Robert Lowe: Pure Mathematics II.—P; Applied Mathematics II.—P; Chemistry II.—P; Physics II.—P; Engineering Drawing and Design II.—P; Applied Mechanics I.—P; Heat Engines I.—P.

Horsley, John Alan Talbot: Pure Mathematics II.—P; Applied Mathematics II.—P; Chemistry II.—P; Physics II.—P; Engineering Drawing and Design II.—P; Applied Mechanics I.—P; Heat Engines I.—P.

Houghton, Gordon Granville: Pure Mathematics II.—P; Applied Mathematics II.—P; Chemistry II.—P; Physics II.—P; Enginering Drawing and Design II.—P; Applied Mechanics I.—P; Heat Engines I.—P.

Lewis, John Armstrong: Pure Mathematics II.—P; Applied Mathematics II.—P; Chemistry II.—P; Physics II.—P; Engineering Drawing and Design II.—P; Applied Mechanics I.—M; Heat Engines I.—P.

Morwood, James Eric: Pure Mathematics II.—M; Applied Mathematics II.—M; Chemistry II.—P; Physics II.—M; Engineering Drawing and Design II.—P; Applied Mechanics I.—P; Heat Engines I.—M.

Philp, Richard Stewart: Pure Mathematics II.—P; Applied Mathematics II.—P; Chemistry II.—P; Physics II.—P; Engineering Drawing and Design II.—P; Applied Mechanics I.—P; Heat Engines I.—P.

Risson, Robert Joseph Henry: Pure Mathematics II.—P; Applied Mathematics II.—P; Chemistry II.—P; Physics II.—P; Engineering Drawing and Design II.—P; Applied Mechanics I.—P; Heat Engines I.—P.

The following completed the Third Year Examination:—

Civil Engineering.

Cullen, Edward Boyd: Mathematics III.—P; Hydraulics I.—P; Electrical Engineering (*a*)—P; Civil Engineering I.—P; Testing of Materials—P; Engineering Drawing and Design III.—P; Surveying I.—P; Engineering Chemistry—P.

Calder, Clifford Mason: Mathematics III.—M; Hydraulics I.—P; Electrical Engineering (*a*)—P; Civil Engineering I.—M; Testing of Materials—P; Engineering Drawing and Design III.—P; Surveying I.—P; Engineering Chemistry—P.

Wagner, Eric Gordon: Mathematics III.—P; Hydraulics I.—M; Electrical Engineering (*a*)—P; Civil Engineering I.—P; Testing of Materials—P; Engineering Drawing and Design III.—M; Surveying I.—P; Engineering Chemistry—P.

Mechanical and Electrical Engineering.

Donaldson, Leslie James: Mathematics III.—P; Hydraulics I.—M; Civil Engineering I.—P; Testing Materials—P; Engineering Design III.—P; Surveying I.—P; Engineering Chemistry—P; Heat Engines II.—P; Electrical Engineering (*a*)—P; Electrical Engineering I.—P.

Leckey, George William: Mathematics III.—M; Hydraulics I.—P; Civil Engineering I.—M; Testing Materials—P; Engineering Design III.—P; Surveying I.—P; Engineering Chemistry—P; Heat Engines II.—M; Electrical Engineering (*a*)—M; Electrical Engineering I.—M.

McCulloch, Alfred: Mathematics III.—M; Hydraulics I.—M; Civil Engineering I.—P; Testing Materials—P; Engineering Design III.—P; Surveying I.—P; Engineering Chemistry—P; Heat Engines II.—P; Electrical Engineering (*a*)—P; Electrical Engineering I.—P.

Pardoe, Leonard Gardiner: Mathematics III.—P; Hydraulics I.—P; Civil Engineering I.—P; Testing Materials—P; Engineering Design III.—P; Surveying I.—P; Engineering Chemistry—P; Heat Engines II.—P; Electrical Engineering (*a*)—P; Electrical Engineering I.—P.

The following completed the Fourth Year Examination:—

Civil Engineering.

Baldwin, Daniel Eric: Civil Engineering II.—P; Engineering Drawing and Design IV.—P; Surveying II.—P.

Mechanical and Electrical Engineering.

Longbottom, Claude Muller: Mechanical Engineering—M; Electrical Engineering—M; Engineering Design IV.—M.

FINAL HONOURS EXAMINATION, 1921.

CLASS LISTS.

FACULTY OF ARTS.

CLASSICS.

Class I.—John Lindsay.

Class II.—Idrisyn Frederick Jones; William Stanley Leslie.

Class III.—None.

MODERN LANGUAGES AND LITERATURE.

Class I.—Eric Honeywood Partridge.

Class II.—None.

Class III.—None.

PHILOSOPHY.

Class I.—None.

Class II.—William Marquis Kyle.

Class III.—None.

FACULTY OF SCIENCE.

MATHEMATICS.

Class I.—None.

Class II.—David Christopher Hamilton.

Class III.—None.

CHEMISTRY.

Class I.—None.

Class II.—None.

Class III.—Irene Lillian Matthews.

GEOLOGY AND MINERALOGY.

Class I.—None.

Class II.—None.

Class III.—Richard Joseph O'Keeffe.

BIOLOGY.

Class I.—None.

Class II.—Charles Robert McLean.

Class III.—None.

FACULTY OF ENGINEERING.

MECHANICAL AND ELECTRICAL ENGINEERING.

Class I.—Claude Muller Longbottom.

Class II.—None.

Class III.—None.

DEGREES CONFERRED IN 1921.

BACHELOR OF ARTS.

Lindsay, John
Partridge, Eric Honeywood
Down, Harold Percy
Jones, Idrisyn Frederick
Kyle, William Marquis
Leslie, William Stanley
Arundel, Margaret Effie Overell
Ashley, Edith Helen
Bale, Theo John
Barbour, Robert Roy Pitty
Barry, Thomas Maurice
Cran, Sydney
Cuthbertson, Madge
Irvine, Charles Robert
Jenkins, Harry
Ludgate, Henrietta Blanche
Martin, Helen
Martin, Zoe Estelle
Seaward, Margaret
Shipley, Elsie Douglas Marion
Spark, Dorothy Mildred Hester
Withecombe, Hilda Harris

BACHELOR OF SCIENCE.

Hamilton, David Christopher
McLean, Charles Robert
Matthews, Irene Lillian
O'Keeffe, Richard Joseph
Bennett, Norman
Broe, James Joseph
Clarkson, Victor Charles
Duus, Earl Wright Jessen
Fisher, Eric Maxwell
Forster, Bessie Tomson
Gee, Eric Gibson
George, Noel Francis
Hurwood, Alan Spence
Johnson, Horace William
Lahey, Mavis Elizabeth Alicia
McKeon, Michael Leonard de Vaney
Percy, Roger Arnold

BACHELOR OF SCIENCE (APPLIED SCIENCE).

Edmiston, Ernest Stewart.

MASTER OF SCIENCE.

Arter, Henry Charles
Hirschfeld, Otto Saddler
James, Frederick William
Kennedy, Sidney George
Kersbergen, Louis George
Lanskey, Robert George
Micheli, Louis Ivan Allan
Pennycuick, Stuart Wortley
Saunders, George Joseph
Scott, Rose McKenzie
Sundstrup, Henry Arthur
Tiegs, Oscar Werner

BACHELOR OF ENGINEERING (CIVIL).

Baldwin, Daniel Eric.

BACHELOR OF ENGINEERING (MECHANICAL AND ELECTRICAL).

Longbottom, Claude Muller.

MASTER OF ENGINEERING (CIVIL).

Wilson, Ronald Martin.

University Prizes and Class Lists issued by the Examiners in Final Honour Examinations.

Name.	Prizes, &c.	Honours.
Faculty of Arts.		
1913.		
Barkell, Philippa Kate	..	2nd cl. Classics
Dakin, Jessie Elizabeth.. ..	..	2nd cl. Classics
1914.		
Powe, Arthur Blaney	Trav. Scholarship	1st cl. Classics
Baird, Henriette Elfreda ..	..	2nd cl. Classics
Foggon, Charles Ambrose ..	..	2nd cl. Classics
Mason, Elizabeth	..	3rd cl. Classics
Meyer, Walter James	..	3rd cl. Classics
Bevington, Agnes Park ..	..	1st cl. Math.
Fisher, Eric Maxwell	..	2nd cl. Math.
Darvall, Annie Emily Jane ..	..	2nd cl. History
1915.		
Grant, Robert	..	1st cl. Classics
†Radcliffe, John Norman ..	Rhodes Scholarship	2nd cl. Classics
Dawson, Margaret Graham ..	..	3rd cl. Classics
Dodds, Aileen Stewart.. ..	..	3rd cl. Classics
Nommensen, John Walden ..	..	3rd cl. Classics
McCulloch, Minnie	..	3rd cl. Math.
Phelan, Margaret May ..	..	3rd cl. Math.
Molesworth, Bevil Hugh ..	Trav. Scholarship, 1916	1st cl. History
Wright, Doris Mary	..	2nd cl. History
Mursell, James Lockhart ..	Archibald Prize, 1914	1st cl. Ment. Phil.
	Trav. Scholarship	
Sheldon, Annie	..	2nd cl. Mod. Lang

† Military Cross.

Name.	Prizes, &c.	Honours.
Faculty of Arts.—Continued.		
1916.		
Bonar, Janet Macadam ..	..	3rd cl. Mod. Lang.
Smith, Margaret Wilhelmina ..	..	3rd cl. Mod. Lang.
*Fisher, Walde Gerard ..	Travelling Scholarship, 1917	1st cl. Classics
*Wonderley, Charles Robertson	..	1st cl. Classics
Harrison, Annie Marjory ..	..	2nd cl. Classics
Jackson, Robert John ..	..	2nd cl. Maths.
McCarthy, James Patrick ..	..	2nd cl. Maths.
Stanley, Edwin James Droughton	Archibald Prize, 1917	2nd cl. History
Jenkyn, Charles Henry Harris	..	3rd cl. History
McCulloch, Hilda Margaret ..	..	1st cl. Mod. Lang.
Dennis, Dorothy Kate ..	..	2nd cl. Mod. Lang.
1917.		
Ruddell, Caroline Mary ..	..	1st cl. Classics
Harrison, Charles Henry ..	..	2nd cl. Classics
Pearce, Archibald Ernest Edgar	Travelling Scholarship 1919	2nd cl. Classics
Smith, Ida Marion	..	2nd cl. Classics
Watson, Freda Charlotte Olivia	..	2nd cl. Classics
Thompson, Francis Cecil ..	..	2nd cl. Maths.
Edwards, Lewis David ..	..	1st cl. Ment. Phil.
Thatcher, Thomas	Gold Medal 1917	1st cl. Ment. Phil.
	Archibald Prize, 1918	
Foggon, Harriet Willard ..	..	2nd cl. Mod. Lang.
Sully, Hilda Jessie	..	3rd cl. Mod. Lang.
Welburn, Mary Amanda *née* Eaves	..	3rd cl. Hist.
1918.		
Byth, Herbert Victor	Travelling Scholarship, 1918	1st cl. Classics
Entriken, Thomas Alexander ..	..	1st cl. Classics
Fitzpatrick, Elsie Victoria ..	..	3rd cl. Classics
M'Carthy, Vincent David ..		3rd cl. Classics
McConnel, Ursula Hope ..	..	1st cl. Ment. Phil.
Adam, Olive	..	2nd cl. Mod. Lang.

*Killed in Action.

Name.	Prizes, &c.	Honours.

Faculty of Arts.—Continued.

1919.

Eden, Ena Doris	..	2nd cl. Classics
Smith, Ivy Lilian	..	2nd cl. Classics
Weise, Gordon Eduard ..	..	3rd cl. Classics
Craig, Elinor Frances	..	2nd cl. Mod. Lang.
Henry, Joseph Thomas ..	..	2nd cl. Mod. Lang.
MacMillan Mary Alexis ..	..	2nd cl. Mod. Lang.
Jones, Edward Walter ..	..	3rd cl. Maths.

1920.

Brown, Stanley George.. ..	..	2nd cl. Maths.
Byth, Elinor Margaret	..	3rd cl. Mod. Lang.
Dath, Nellie	..	2nd cl. Classics
Down, Harold Percy	..	2nd cl. Phil
Drake, Trevers Kinnaird ..	..	2nd cl. Classics
Davidson John Federation Edward	..	2nd cl. Mod. Lang.
Easterby, Dora Emily	..	3rd cl. Classics.
Henzell, Margaret Clare ..	..	2nd cl. Classics.
Lee, John Joseph	..	2nd cl. Maths.
MacDonnell, Alexander Ivor ..	..	3rd cl. Classics.
Palfrey, Albert Edward.. ..	Thomas Morrow Prize, 1920	1st cl. Hist.

1921.

Jones, Idrisyn Frederick ..	Ford Prize	2nd cl. Classics
Kyle, William Marquis	..	2nd cl. Phil.
Leslie, William Stanley ..	..	2nd cl. Classics
Lindsay, John	..	1st cl. Classics
Partridge, Eric Honeywood ..	Travelling Scholarship 1921	1st cl. Mod. Lang.

Faculty of Science.

1914.

Dart, Raymond Arthur.. ..	..	3rd cl. Biology
Hargreaves, George Watson ..	Gold Medal (Chemistry)	2nd cl. Chemistry
Bryan, Walter Heywood ..	..	2nd cl. Geo. and Min.

Name.	Prizes, &c.	Honours.

Faculty of Science.—Continued.

1915.

Dart, Raymond Arthur ..	..	1st cl. Biology
Gillies, Clyde Douglas	..	1st cl. Biology
Cleminson, Hilda Florence Lucy	..	2nd cl. Biology
Waddle, Isaac	..	1st cl. Physics

1916.

Watkins, Stewart Byron ..	Scholarship for Original Chemical Research, 1916	1st cl. Chemistry
Vance, Grace Winifred ..	..	2nd cl. Geology
James Frederic William ..	..	2nd cl. Physics

1917.

Walker, Mavis Jean	..	1st cl. Biol.
Sterne, Ilma Ruby	Gold Medal	1st cl. Geol.
Haines, Vera	..	2nd cl. Biol.

1918.

Bancroft, Mabel Josephine ..	Walter and Eliza Hall Fellowship in Econ. Biology, 1917	2nd cl. Biol.
Drape, Olive Myrtle	..	2nd cl. Biol.
James, Gladys Yvonne.. ..	..	2nd cl. Biol.
Peberdy, Edna Florence ..	..	2nd cl. Biol.
Cooling, George	Scholarship for Original Chemical Research, 1918	2nd cl. Chem.
Evans, Clive Kerslake	..	2nd cl. Chem.
Graff, Roy	..	2nd cl. Geol.
Burton, Ernest Joseph ..	..	2nd cl. Math.

Name.	Prizes, &c.	Honours.
Faculty of Science.—Continued.		
1919.		
Tiegs, Oscar Werner	..	1st cl. Biol.
Quinn, Reginald George ..	..	2nd cl. Biol.
Hirschfeld, Otto Saddler ..	..	2nd cl. Biol.
Scott, Rose McKenzie ..	..	2nd cl. Geol.
Arter, Henry Charles	..	1st cl. Chem.
Kersbergen, Louis George ..	..	1st cl. Chem.
Lanskey, Robert George ..	..	1st cl. Chem.
Micheli, Louis Ivan Allan ..	..	1st cl. Chem.
Pennycuick, Stuart Wortley ..	Gold Medal 1919 Scholarship for Original Chemical Research, 1919	1st cl. Chem.
1920.		
Boyle, Robert Arthur	Scholarship for Original Chemical Research 1920.	2nd cl. Chem.
Chamberlain, William John ..	..	2nd cl. Chem.
Keid, Harold Guy Walker ..	..	2nd cl. Geol.
Kennedy, Sidney George ..	..	2nd cl. Chem.
Nommensen, Frederic Charles ..	..	3rd cl. Chem.
Sundstrup, Henry Arthur ..	..	2nd cl. Biol.
1921.		
Hamilton, David Christopher ..	..	2nd cl. Math.
McLean, Charles Robert ..	..	2nd cl. Biol.
Matthews, Irene Lilian ..	..	3rd cl. Chem.
O'Keeffe, Richard Joseph ..	..	3rd cl. Geol.
Faculty of Engineering.		
1915.		
Wilson, Ronald Martin ..	Walter and Eliza Hall Travelling Fellowship	1st cl. Civ. Engineering
McIntyre, Alex. Leahy ..	Gold Medal (Engineering)	2nd cl. Civ. Engineering

Name.	Prizes, &c.	Honours.
Faculty of Engineering.—Continued.		
	1917.	
Modrak, Peter	..	2nd cl. Mech. and Elec. Eng.
	1919.	
Aitken, Noel Crawford ..	Sir Thomas McIlwraith Engineering Scholarship	1st cl. Civ. Engineering
	Gold Medal, 1919. Walter and Eliza Hall Travelling Fellowship, 1919.	1st cl. Civ. Engineering
	1919	
Mott, Charles Banks	Sir Thomas McIlwraith Engineering Scholarship	1st cl. Civ. Engineering
Uscinski, Alexander Josephovitch	..	2nd cl. Mech. and Elec. Eng.
	1920.	
Blakey, Othman Frank	Sir Thomas McIlwraith Engineering Scholarship	1st cl. Civ. Engineering
Brown, Percival Henry ..	..	1st cl. Civ. Engineering
Paterson, Charles Raff	..	1st cl. Civ. Engineering
	1921.	
Longbottom, Claude Muller ..	..	1st cl. Mech. and Elec. Eng.

BENEFACTIONS BESTOWED BY PRIVATE PERSONS.

Date	Amount.	Donor.	Object of Foundation.
	£ s. d.		
1910	150	Thomas Morrow	Annual Prize, Essay on Australian Subject
1910	1,000	Robert Christison	Towards a Chair of Tropical and Semi-Tropical Agriculture
1910	100	G. L. Warry	Annual Prize for Women
1910	1,937 6 6	Trustees, University Equipment Fund*	For Purchase of Equipment and Library Books
1911	500	Trustees of the late John Archibald	Scholarship in Economics
1911	160	Trustees, T. J. Byrnes Memorial Fund	Annual Medal for Best Pass in Junior Public Examination
1911	57	Brisbane Committee Sydney Public Examinations	Annual Prize (James Brunton Stephens Prize) for a Best Essay on a Set Subject at Junior Public Examination
1912	1,350	Sir Robert Philp. Amount presented to him by Subscribers to Robert Philp Memorial Fund	Scholarship for Physics Research
1913	105	Babcock and Wilcox ...	Engineering Equipment
1913	50	Anonymous	Faculty of Agriculture
1913	1,000	Colonial Sugar Refinery Coy., Ltd.	Chemical Research
1913	2,400	Subscribers in England† ...	Faculty of Agriculture
1914	416 16 2	W. B. Slade, Esq.	Towards a Scholarship
1914	1,000	Honourable Albert Norton	General
1914	2,670 8 7	Subscribers to Sir Thomas McIlwraith Memorial Fund	Engineering Scholarship
1915-16	1,800	Trustees of the late Walter and Eliza Hall	Towards Cost of Erection and Equipment, Walter and Eliza Hall School of Applied Chemistry
1916	202 6 0	Queensland University Extension Council	John Thomson Lectureship
1917	100	Ford Memorial Medal Fund	Annual Prize for an English Poem
1921	..	Trustees of the late Walter and Eliza Hall‡	
	300	..	Engineering Fellowship
	500	..	Economic Biology Fellowship
	800	...	School of Applied Chemistry
	100	...	Incidental Expenses

* For List of Donors to this Fund, *see* University Calendar for 1911-12, at p. 117.

† For List of Donors to this Fund, *see* University Calendar for 1914, p. 22

‡ The Walter and Eliza Hall Trust endowed Fellowships in Engineering, Economic Biology, and Pure Chemistry and the Walter and Eliza Hall School of Applied Chemistry, from 1915 to 1921. The amounts set out above represent the present endowments paid annually by the Trust.

BENEFACTIONS BESTOWED BY PRIVATE PERSONS—*continued.*

Date.	Amount.	Donor.	Object of Foundation.
	£ s. d.		
1920	10,000 0 0	British Red Cross Society	Endowment of Medical Research Chair in Psychology
1920	7,464 7 6	Trustees of the late Sir Samuel McCaughey	Annual Income of Bequest to the University
1921	...	Trustees of the late Walter and Eliza Hall	
	300	...	Engineering Fellowship
	300	...	Economic Biology Fellowship
	800	...	School of Applied Chemistry
	50	...	Incidental Expenses
1921	7,933 8 1	Trustees of the late Sir Samuel McCaughey	Annual Income of Bequest to the University

ROLL OF HONOUR.

PRO PATRIA CECIDERUNT.

MEMBERS OF THE UNIVERSITY.

Frederick George Pitty Barbour
Sydney Stanna Bond
Philip Gerald Browne
Kenneth MacKenzie Brydon, B.E.
*Roger James Cholmeley, B.A.
Leslie Norman Collin
Walde Gerard Fisher, B.A.
Sydney Kelso Ford
*Trevor Francis
George Ferguson Pearman Grant
Russell Walter Grant
Edgar Cullen Hall
Albert Edward Harper
Frank Granville Haymen
Charles Chalmers Jameson
Trevor Warwick Jones
Leonard Francis MacDonnell
Donald MacNeill
Frank Arnold Manders
John Alexander Noble
Arthur Wellesley Oakes, M.A.
William Evelyn Dunsyrn Rankin
Wilfred Price Simmonds
Harold St. George Taylor
William Campbell Thomson
Roy Cumestree Trout
Cyril Cutcliffe Ward
George Colin Campbell Wilson
†Charles Robertson Wonderley, B.A.
Neville Hunter Young

NON-MATRICULATED.

William Frederick Donisch.

ADMINISTRATIVE STAFF.

William Arthur Cramb.

ANNUAL REPORT OF THE SENATE OF THE UNIVERSITY OF QUEENSLAND FOR THE YEAR ENDED 31st DECEMBER, 1920.

1. The Senate of the University of Queensland, in pursuance of section 28 of "*The University of Queensland Act of* 1909," has the honour to transmit to His Excellency the Governor in Council a report of the proceedings of the University during the year ended 31st December, 1920.

The Third Senate.

2. The term of office of the Second Senate elected and appointed in June and July, 1916, was extended under the provisions of the Act until 28th February, 1920, and on 14th February an election was held for ten members of the Senate by the Council, resulting in the re-election of the Honourable Sir Pope Alexander Cooper, K.C.M.G., M.A. (Chief Justice of Queensland), Archbishop Donaldson, M.A., Professor Hawken, B.A., M.E., Memb. Inst. C.E., John Brownlie Henderson, F.I.C., F.C.S., the Rev. E. N. Merrington, M.A., Professor Michie, M.A., Mr. W. N. Robertson, M.B., Ch.M., Professor Steele, D.Sc., F.R.S., and the Honourable A. J. Thynne, M.L.C., and the election of John Lockhart Gibson, M.D. The

remaining ten members of the Senate were appointed by the Governor in Council as follows:—The Honourable Robert Joseph Carroll, M.L.C., Archbishop Duhig, the Hon. John Arthur Fihelly, M.L.A., the Hon. John Huxham, M.L.A., the Hon. Thomas Llewellyn Jones, M.L.C., Harry William Lee, William Field Lloyd, Mr. Justice McCawley, the Hon. Frank McDonnell, M.L.C., and John Douglas Story.

THE CHANCELLOR AND THE VICE-CHANCELLOR.

3. At the first meeting of the Senate on 12th March, 1920, the Honourable Sir Pope Alexander Cooper, K.C.M.G., M.A., Chief Justice of Queensland, was re-elected Chancellor, and the Honourable Andrew Joseph Thynne, M.L.C., was re-elected Vice-Chancellor.

THE WARDEN OF THE COUNCIL.

4. At the first meeting of the Council held after the first Tuesday in March, 1920, the Council re-elected the Honourable Sir Robert Philp, K.C.M.G., to be Warden.

MEETINGS OF SENATE AND STANDING COMMITTEES.

5. The number of meetings of the Senate and Standing Committees held during the year,

and the attendance of the members thereat, were as follows:—

Particulars.	Senate.	Buildings and Grounds Committee.	Education Committee.	Library Committee.	Finance Committee.	Total.
Total number of meetings held	8†	1	6	5	4	24
Number of attendances—						
Cooper, Sir Pope A. ..	5	..	..	..	..	5
Carroll, Hon. R. J. ..	7	..	6	..	3	16
Donaldson, Archbishop* ..	1	..	1	1	..	3
Duhig, Archbishop ..	6	1	4	4	..	15
Fihelly, Hon. J. A.* ..	1	..	..	..	1	2
Gibson, J. Lockhart ..	8	1	4	..	..	13
Hawken, Professor R. W.	5	..	3	2	..	10
Henderson, J. B.	8	1	4	..	..	13
Huxham, Hon. J.* ..	–	..	..	..	..	..
Jones, Hon. T. L. ..	4	..	2	..	2	8
Lee, H. W.	8	..	6	5	4	23
Lloyd, W. F.*	2	..	..	..	..	2
McCawley, Mr. Justice ..	4	..	3	..	1	8
McDonnell, Hon. F.* ..	1	..	..	..	..	1
Merrington, the Rev. E. N.	6	..	5	2	2	15
Michie, Professor J. L.* ..	8	..	6	5	..	19
Robertson, W. N. ..	7	1	3	..	1	12
Steele, B. D.	7	..	3	3	..	13
Story, J. D.	8	..	4	..	4	16
Thynne, A. J.	7	..	5	4	..	16

* Absent with leave

† 7 Ordinary, 1 Special.

UNDERGRADUATES.

6. The number of undergraduates who matriculated in 1920 was 125. Of these, 32 were women. The number actually attending lectures and laboratories or working under the direction of the Correspondence Study Department during the year was as follows:—

Faculty.	Day Students.				Evening Students.	External Students.	Total.
	1st Year.	2nd Year.	3rd Year.	4th Year.			
Arts—							
Men	11	14	7	..	12	24	68
Women ..	20	12	11	..	6	7	56
Science—							
Men	33	4	9	..	17	..	63
Women ..	9	5	3	..	..	..	17
Applied Science—							
Men	5	3	2	1	..	..	11
Engineering—							
Men	17	14	7	2	..	..	40
Non-matriculated students taking single subjects—							
Men	..	..	..	..	5	32	37
Women ..	..	..	..	..	3	7	10
Totals ..	95	52	39	3	43	70	302

Graduation, 1920.

7. The following degrees were conferred by the Senate in 1920:—

Bachelor of Arts.

Adam, Pearl
Bath, Walter Stanley
Barker, Eleanor Isobella
Binns, May
Brown, Stanley George
Byth, Ellinor Margaret
Campbell, Kathleen
Cherry, Isabella Phyllis
Dath, Nellie
Davidson, John Federation Edward
Drake, Trevers Kinnaird
Easterby, Dora Emily
Fraser, Alexander MacDonnell
Gordon, Julia Annie
Harsant, Kathleen Mary
Henzell, Margaret Claire
Herzig, Bernard Albert
Higgins, Kathleen Annie
Kennedy, Doris Vivian
Knott, Eva
Lee, John Joseph
Morgan, Ina Hope
Murray, Vida Ann
O'Connor, Michael Matthew
Palfery, Albert Edward
Paterson, Frederick Woolnough
Ryan, Rosa

BACHELOR OF ARTS (*ad eundem gradum*).

Kirwood, Albert Ernest Maldon, B.A. (Melbourne, 1919).

MASTER OF ARTS (*ad eundum gradum*).

Robinson, Alfred Herbert, M.A. (New Zealand 1912).
Stevenson, William Henry Webster, M.A. (Sydney).

BACHELOR OF SCIENCE.

Chamberlain, William John
Edmiston, Ernest Stewart
Keid, Harold Guy Walker
Macfie, Jean Mascotte
Nommensen, Frederick Charles
Ping, Aubrey Moore
Rawson, Valentin Stratford
Ringrose, Edward Colin Davenport
Wilson, George Herbert

MASTER OF SCIENCE.

Burton, Ernest Joseph
Cooling, George
Drape, Olive Myrtle
Evans, Clive Kerslake
James, Gwladys Yvonne

BACHELOR OF ENGINEERING (CIVIL).

Blakey Othman Frank
Brazier, Felix Howard
Kennedy, Eric William
McWilliam, Russell John
Paterson, Charles Raff
Strover, Walter Henry

DOCTOR OF MEDICINE (*ad eundum gradum*).

King-Patrick, James, M.D. (Glasgow).

DEGREE EXAMINATIONS.

8. Details of the number of undergraduates who sat for examination at the end of the academic year 1920, and have completed their respective years, appear in the table hereunder:—

Faculty.	First Year.		Second Year.		Third Year.		Fourth Year.		Evening Students.		External Students.		Total.	
	Sat.	Passed.	Sat.	Passed.	Sat.	Passed.	Sat.	Passed.	S. t.	Obtained credit for certain subjects.	Sat.	Obtained credit for certain subjects.	Sat.	Obtained credit for year's work.
Arts	30	25	26	25	16	16	..	..	15	12	24	16	111	94
Science	42*	29†	9	8	12	12	..	..	17	13	..	..	80	62
Applied Science	3	2	3	3	2	2	1	1	..	..	..	..	9	8
Engineering	16	11	13	12	7	7	2	2	..	..	..	..	38	32
Totals	91	67	51	48	37	37	3	3	32	25	24	16	238	196

* Includes 12 students who sat for 3 subjects for the purpose of Medical Course at other Australian Universities.
† Includes 8 students who passed in 3 subjects for this purpose.

UNIVERSITY AWARDS, SCHOLARSHIPS.

9. The awards of University prizes and scholarships during the year 1920 were as follows:—

(*a*) *The Gold Medals,* established by the Government of Queensland for outstanding merit in any Department. No award.

(*b*) *Scholarship for the Encouragement of Original Chemical Research,* established by the Government of Queensland. Annual value, £100; tenable for two years. Robert Alexander Boyle, B.Sc.

(*c*) *Scholarship for Engineering,* established by the Government of Queensland. Two scholarships. Annual value, £100 each; tenable for one year. No candidates.

(*d*) *Foundation Travelling Scholarship,* established by the Government of Queensland. Annual value, £200; tenable for two years. Not awarded.

(*e*) *The Thomas Morrow Prize,* established by the late Thomas Morrow, Esquire, for an essay on a subject of purely Australian interest. Book prize awarded out of annual interest on sum of £150. Subject: "The Influence of Scientific Investigation on the Development of Australian Industries during the last Quarter of a Century." No award.

(*f*) *The Archibald Scholarship,* established by the beneficiaries in the estate of the late Honourable John Archibald, M.L.C., for the best essay on a subject connected with the Theory and Practical Application of Economics. Annual interest on a sum of £500. Subject: "Price-fixing by Governmental Authority." No candidate.

(*g*) *The Lizzie Heal-Warry Prize,* established by Lizzie Heal, late wife of the late G. L. Warry, Esquire, for the first-year woman

student who is most proficient in English. Book prize provided out of annual interest on sum of £100. Alix Ena Kathleen Veronica Baggaley.

(*h*) *The Robert Philp Scholarship,* established by Sir Robert Philp, with moneys presented to him, for graduate who has shown the greatest general proficiency in Physics throughout his course. Annual interest on sum of £1,366 14s. 3d. and accumulations; tenable for one year. No candidate.

(*i*) *The Sir Thomas McIlwraith Engineering Scholarships,* established by public subscription as a memorial to the late Sir Thomas McIlwraith in recognition of his long and valuable services to the Colony of Queensland. Two scholarships of annual value of £40; tenable for one year. Daniel Eric Baldwin; Claude Muller Longbottom.

(*j*) *The Ford Memorial Prize,* established by the Queensland United Licensed Victuallers' Association in commemoration of Lieutenant S. K. Ford and Corporal T. W. Ford, both of whom lost their lives in defence of the Empire. Medal provided out of annual interest on sum of £100. Subject: "Ode, any subject." Colin William Hugh Bingham.

The Library.

10. *Books and Publications.*—The increase of the Library was about the same as last year, and the total has now reached about 20,100 volumes.

Accommodation.—The increase in the number of volumes was not met by any increase in shelving accommodation. The shelves available are all full, and volumes have to be placed on the floor. This renders the volumes less accessible, and interferes with the efficient management of the Library.

The Administrative accommodation is wholly inadequate, consisting merely of tables and boxes in the Library. There is no room available for receiving and indexing, and all records are accessible to persons using the Library. It is impossible to exercise any proper check upon persons taking books out of the Library, and many are taken out without reference to the Assistant; some are replaced in the same fashion, and some disappear altogether or are found lying about in the Common Rooms and in other parts of the University.

In view of the improbability of any removal next year, it would be a matter of great convenience if extra shelving were placed in the main library above the present shelves, and if the blank wall in the reading room were shelved for the files of newspapers. The present shelf accommodation for papers is wholly unsuitable, and provision should be made for horizontal shelving upon rollers as in up-to-date libraries.

Benefactions.

11. The Senate has received gifts of books from T. H. Houghton, Esq., Sydney; J. MacKenzie Lees, Esq., Brisbane; Government House Library; Parliament House Library; Calcutta University; Carnegie Institution; Government Analyst; E. Scriven, Esq.; University of Edinburgh; Institution of Civil Engineers; Department of the Interior, Washington; Oxford University Press; Superintendent, Government Hydro-Electric Service of Netherlands, East India; The Bhandarkar Oriental Research Institute, Poonah; South Australian Institute of Engineers; Dutch Netherlands Government; Home and Territories Department (Commonwealth Government); Geological Surveys of the following:—Scotland,

Florida State, Natal, Hohoro District (New Zealand), Victoria, Northern Territories of Australia, Western Australia, Tasmania, Queensland, South Africa; and from K. ff. Swanwick, Esq.

WALTER AND ELIZA HALL BENEFACTIONS.

12. (*a*) *Walter and Eliza Hall Engineering Fellowship.*—Mr. Noel Crawford Aitken, B.E., who was elected last year and proceeded to England under the conditions of his appointment, presented reports of his work, which were regarded as satisfactory.

(*b*) *Walter and Eliza Hall Fellowship in Economic Biology.*—Mr. Tiegs, B.Sc., was appointed to the fellowship formerly held by Miss Bancroft. A report of the work done during the year will be found in the appendix.

(*c*) *Walter and Eliza Hall Fellowship in Pure Science.*—This Fellowship was not renewed after 31st March, 1920. The funds previously devoted to it were made available for the School of Applied Chemistry.

(*d*) *Walter and Eliza Hall School of Applied Chemistry.*—A report covering the work of the school is set out in the appendix.

PUBLICATIONS ON ORIGINAL RESEARCH.

13. There has not been a large amount of original research during the year, and little has been published.

RHODES SCHOLARSHIPS, 1920-21.

14. The elections for the Rhodes Scholars for the year 1920 and 1921 were held in August, 1920, when Mr. Robert Roy Pitty Barbour was elected for the 1920 Scholarship, to go into residence at Oxford in January, 1921; and Mr.

Thomas Lawton (late A.I.F.) for the 1921 Scholarship, to go into residence in October, 1921.

THE TEACHING STAFF.

15. At the request of the Minister for Trade and Customs, leave of absence was granted to Professor T. Harvey Johnston from 1st June, 1920, until 1st March, 1923, to enable him to undertake the duties of Scientific Controller under the scheme for the eradication of prickly-pear.

Mr. Albert Cayzer, B.Sc., Sydney, formerly Lecturer in Biology in the University of Western Australia, was appointed Lecturer in Biology; and consequent on the leave granted to Professor Johnston was appointed to act as Lecturer-in-charge of the Department from 1st June to 31st December. Miss Mavis Jean Walker, M.Sc., was appointed to act temporarily as Senior Demonstrator and Assistant Lecturer in the Department for the same period.

Early in the year Professor Hawken met with an accident, which incapacitated him for some time. The Senate is glad to note that Professor Hawken has almost recovered from the effects of this.

Dr. Boyd, who was appointed Lecturer in Electrical Engineering, took up his duties at the beginning of the year.

Professor Priestley and Mr. Seymour, who had last year obtained leave of absence to visit England, returned during the year and resumed duty. Mr. Seymour subsequently resigned his Lectureship in Logic and Education as from 28th February, 1921. The Senate accepted the resignation with an expression of regret and of appreciation for the services Mr. Seymour had rendered during the past seven years.

Australasian Medical Congress.

16. The eleventh session of the Australasian Medical Congress was held in the University at the end of August. The opening of the third term was postponed for six days in order to enable the Congress to hold its sessions in the lecture rooms, and part of the administrative quarters were placed at the service of the officials of the Congress. The Senate is pleased to note that the arrangements made were satisfactory to the members of the Congress.

Public Lectures.

17. The activities of the Committee during the year 1920 included:—

(*a*) A series of public lectures delivered in the Albert Hall, Brisbane;

(*b*) An intra-mural course of lectures delivered at the University;

(*c*) A share in the mid-day series of lectures arranged by the Chamber of Commerce;

(*d*) A class in Psychology held at Toowoomba;

(*e*) A number of lectures delivered in various country towns;

(*f*) Efforts made to attract non-matriculated students to University lectures.

Those activities may be commented upon separately.

(*a*) *Public Lectures.*—Nine lectures in this series, were delivered in the Albert Hall, Brisbane, between 7th July and 6th October. The lectures were well attended in spite of interruptions caused by the visit to Queensland of H.R.H. the Prince of Wales; the Australasian Medical Congress; and the election campaign.

(*b*) *Intra-mural Course.*—The Committee

was of opinion that facilities should be offered for a more intensive study of some particular subjects than was possible in the public lectures, which, however valuable they may be for purposes of publicity, are of no great educational value. In accordance with this opinion, arrangements were made to offer courses of five lectures each to be delivered in the evening at the University. These courses were—

(1) The Early Development of European Civilisation, by Professor J. L. Michie, M.A.

(2) Electro-magnetic Induction, by Professor T. Parnell, M.A.

The Committee decided to charge a fee of 5s. for each of these courses, not in order to make a profit, but in order to cover expenses, *e.g.*, of working lantern slides.

Professor Michie's course attracted thirty students, and the lectures were delivered on Tuesday evenings in the University, but the Committee decided, after consultation with Professor Parnell, to withdraw his course as the number of applicants (7) did not seem to justify the preparation which the delivery of the course involved. Consequently the fees were returned, in this case, to the applicants.

(*c*) *Chamber of Commerce, Mid-day Lectures.*—Five members of the University lecturing staff delivered lectures as part of this series, namely, Professors T. H. Johnston (2), and H. J. Priestley, Messrs. Alcock, Melbourne, and Seymour. These lectures have now been published in book form by the Chamber of Commerce.

(*d*) *Class in Psychology at Toowoomba.*—An application was received by the Committee from Mr. S. J. Harwood for a class in Psychology. The Committee was unable to arrange

for a member of the University lecturing staff to perform this work, but, after consultation with Professor Mayo, Miss McConnel was asked to undertake the direction of the class. Miss McConnel assented, and a class of sixty members was formed. Ten lectures were delivered, and the hope was expressed from Toowoomba that a similar class in some other subject might be arranged for 1921.

(*e*) *Lectures in Country Towns.*—Towards the end of the year the Committee decided to approach other country towns and to ask certain members of the lecturing staff to lecture in those towns during November, at the close of the academic year.

A circular (attached) was sent to Toowoomba, Warwick, Maryborough, Bundaberg, Rockhampton, and Gympie, and these towns, with the exception of Gympie, formed representative committees under the direction of the Mayor, to co-operate with the Public Lecture Committee.

The local committee bore the costs of the lectures; the Public Lecture Committee paid the expenses of the lectures. No fee was paid to the lecturers.

The lectures given were:—

Maryborough	..	Professor Steele.
Bundaberg	..	Professor Mayo.
Warwick	..	Professor Michie.
Rockhampton	..	Mr. Stable, M.A.
Toowoomba	..	Mr. Melbourne, B.A.

Gympie expressed a willingness to co-operate next year, although it considered that for this year there was not sufficient time to make local arrangements.

It is probable that the local committees

which have been formed will approach the Public Lecture Committee during the year for lectures, and the question of provision of staff for this work, which is likely to become extensive, should be considered. The Public Lecture Committee has already submitted to the Senate a proposal on the subject of adult education. It may be possible to make this operative in a preparatory way by co-operating with these local committees.

(*f*) *Non-matriculated Students.*—In response to the wishes of the Education Committee of the Senate, attention was drawn by advertisement to the fact that all lectures in the University may be attended by persons who pay the prescribed fee. Between £20 and £30 has been spent in advertising in this way on work which strictly does not come within the activities of the Public Lecture Committee.

The response to these advertisements was encouraging. Ten students attended various courses of lectures, paying fees amounting to £10 10s.

The Brisbane Press has done much during the year to assist the Public Lecture Committee, for, in addition to the various short paragraphs announcing lectures, a number of leading articles have appeared in which the work of the Committee has been most favourably commented upon.

Two articles in particular in the "Daily Mail" and the "Telegraph" of 6th November are valuable, for they contain, as well as an appreciation of the work done by the University, an appeal for a larger subsidy in order to make a wider development possible.

The Press also reported fully the lectures which were given, and in this way still further stimulated public interest in the University.

Financial Statement.—

(*a*) Receipts—	£	*s.*	*d.*
From Senate (grant for the year)	100	0	0
Lecture fees	19	16	0
From Toowoomba, Psychology class	20	0	0
	£139	16	0

(*b*) Expenditure—			
Miss McConnel—Psychology class	20	0	0
Hire of Albert Hall ..	28	7	0
Advertising, &c.	79	11	8
Fees Refunded	1	15	0
	£129	13	0

Proposed Activities for the year 1921.—The Committee intends to carry on the public lectures and the intra-mural courses as in 1920. For this purpose it is thought that a grant of £100 for the year will be sufficient.

The Committee wishes to develop the work outside of Brisbane, but it is of the opinion that for this some extra grant will be necessary.

UNIVERSITY ORGANISATION AND EXPANSION.

18. The report of the Select Committee appointed by the Senate to deal with the question of organisation and expansion is set out in the appendix hereto.

MEDICAL RESEARCH CHAIR.

19. The sum of £10,000, being a share of the gift of the British Red Cross Society, has been given to the University for the endowment of a Medical Research Chair to promote inquiry into

the application of Psychology to the alleviation of and cure of the psychoneuroses, the psychological aetiology of the psychoneuroses and the bearing of modern psychological discoveries upon education. The Senate has under consideration the best means of carrying out the object of the gift.

War Memorial.

20. It has been arranged to call a meeting of members of the University early in the coming year to consider the matter of a suitable War Memorial connected with the University.

Conference of Australian Universities.

21. Professors Michie and Steele attended the Preliminary Conference in Sydney of the Australian Universities in June as representatives of the University of Queensland, when a number of topics of importance were discussed. Effect has already been given to one of these by the establishment of the scheme for adult matriculation, to which reference is made in paragraph 23.

Pan Pacific Scientific Conference.

22. Owing to the help of Mr. E. C. Barton, Mr. James Allan, Mr. Richard Trout, Mr. W. Moxon, Mr. C. T. Oelrichs, Mr. R. T. Frew, and the Committee of the Brisbane Stock Exchange, the Senate was able to accept an invitation to send a representative to the Pan Pacific Scientific Conference, which met at Honolulu in August. The representation of the University was entrusted to Professor H. C. Richardson, D.Sc., Professor of Geology and Mineralogy, from whom a valuable report has been received. As a result of this Conference it is proposed to undertake a systematic study of the various problems affecting the Pacific Ocean, in connection with which a Conference will be held in New Zealand in 1922.

ADULT MATRICULATION.

23. The question of Adult Education has been under consideration by the Universities of the Empire since the Armistice granted to Germany in November, 1918. It was discussed at the recent Conference of Australian Universities held in Sydney, and the Senate has approved of a scheme prepared by the Board of Faculties for the admission to the Faculties of persons other than the ordinary candidates from the schools. Under this scheme candidates who have attained the age of 25 years may be admitted to matriculation on passing a special examination. The subjects of this examination include:—

(A) *Faculty of Arts.*

(*a*) An essay paper in which candidates will be asked to write at least two and not more than three essays dealing with General History, English Literature, Economics, Arts and Music, and current topics, in which they will be expected to show both knowledge and power of expression.

(*b*) A language other than English.

(*c*) Mathematics or a Science subject.

ADULT MATRICULATION.

(B) *Faculty of Science.*

(*a*) An essay paper as in the Faculty of Arts.

(*b*) Mathematics.

(*c*) A Science subject.

(*d*) Translation into English of simple passages from French or German text-books on the Science subject selected.

In these subjects the standard of proficiency will be such as may be decided by the Faculty concerned as the minimum required to fit the candidate for first-year work.

The scheme is not rigid. Provision is made for accepting other work in lieu of the particular subjects mentioned, the general object of the scheme being to ensure the admission to the University of any person having an adequate degree of general intellectual attainment and of facility in intellectual work, together with the requisite training in the subjects necessary for the work of the particular Faculty. Candidates are advised that though Latin is not required, a knowledge of that language is desirable for the pass course in Arts, especially for courses in History and Modern Languages, and that it is essential for Honours courses in these groups.

Diploma in Journalism.

24. Early in the year the Senate was requested by the Queensland Branch of the Australian Journalists' Association to take into consideration the higher education of journalists. The request was granted, and certain proposals were submitted. These were discussed by the Faculty of Arts in conference with representatives of the Association and were adopted by the Senate. The scheme as adopted provides for the establishment of a Diploma in Journalism to be conferred after a course of study covering:—

(*a*) English I; (*b*) British History I; (*c*) Economics, with Economic History; and (*d*) Any first-year subject other than the above or any of the following second-year subjects:—English II; British History II; Constitutional History; Political Science II; Education.

Courses in Modern History may be taken

as alternative to British History. The course is open to matriculated students of the Faculty of Arts and to non-matriculated students on presentation of a certificate from the Executive of the Australian Journalists' Association that the candidate has come satisfactorily through three years' practical experience of journalism. Provision is made for these students to be admitted to matriculate in the Faculty of Arts on passing in a language other than English and a Mathematics and a Science subject at the adult matriculation examination. Credit will be given for either or both of these subjects as already passed at the Senior Public Examination or at a higher standard. This scheme will be embodied in a Statute of the University.

COMPLETION OF FIRST DECENNIAL PERIOD.

25. With the close of the academic year 1920 the University completed the tenth year of its activities. The University opened on 14th March, 1911, with a professional staff of 4 and 60 students. During the year now under review the professional staff numbered 31 and there were 250 students attending the lectures and laboratories or working under the supervision of the University authorities.

MUSIC EXAMINATIONS.

26. Examinations in theory and practice were held in September and November in Brisbane and other centres, under the joint scheme of the Universities of Melbourne, Adelaide, Tasmania, Queensland, and Western Australia, and the State Conservatorium of New South Wales.

THE PUBLIC EXAMINATIONS.

27. In the Junior and Senior Public Examinations, held in November-December,

1920, the number of entries received was as follows:—

Junior Public Examination	956
Senior Public Examination	315
Total	1,271

In the Junior, 532 candidates qualified for certificates.

In the Senior, 170 candidates were successful.

WORKERS' TUTORIAL CLASSES.

28. During the year 1920 the Joint Committee met four times. Mr. Justice McCawley resigned and Professor Mayo was appointed in his place.

The Committee this year asked for a grant of £2,210 for 1921, and £1,610 has been given. This sum, although inadequate for larger schemes, is sufficient to carry on for the present, and the Committee expresses its pleasure that the Government has been able to increase its grant in spite of financial stress.

General Progress.—The session of 1920 started with three tutorial classes.

Second Year Economics	Mr. J. H. Jones, B.A.
Literature	Mr. J. Lindsay.
Essay Class	Mr. E. Dunlop, B.A.

Note—Owing to the lack of funds the latter two classes were arranged to hold twelve sessions instead of twenty-four, the tutors being paid half the amount; but the Government in the middle of the year gave a further grant for these classes, to complete their full sittings. This the essay class did; the increased grant came too

late, however, for the continuance of the literature class to be arranged.

Further classes started later in the year; viz.,

Elementary Musical Theory	.. Mr. G. Sampson, F.R.C.O.
Economics (Brisbane)	.. Mr. T. C. Witherby, M.A.
Economics (Cannon Hill)	.. Mr. T. C. Witherby, M.A.

Beyond these classes there was a speakers' class, consisting of half a dozen members, and an Economics class at Windsor (both taken by the Director), attended by about twelve students in all. These classes, however, only met a few times, and no record therefore has been kept of them.

The Director's classes did not start until June, as owing to his illness at the beginning of the session he was obliged to postpone preliminary organising work which was undertaken in company with the Secretary of the W.E.A., and was obliged to lecture before various organisations with a view to enrolling students later in the year than is his normal custom.

It may be observed about the classes in general that, although the attendance this year is not large, the tutors report a keenness on the part of those students who did attend. The essay class is a useful innovation, preparing, as is does, students to write essays in the ordinary tutorial class, and so fitting them for a branch of W.E.A. study for which disinclination has hitherto been shown. The class in musical theory was a very short one, but the interest displayed was sufficient to warrant a class of a similar nature being undertaken for a longer period next year.

The number of students attending the classes held during the session is as follows:—Students enrolling: 69 men, 46 women; total 115. The number of effective students is 81.

Owing to the lack of funds, the Director has been unable to visit country centres this year to any appreciable extent. Correspondence, however, reveals the fact that in country centres previously visited by the Director and the Secretary of the W.E.A., and in other places also, there is still a growing demand for lectures and classes. The Committee would record its conviction that a most essential part of the W.E.A. activity is the carrying forward of the tutorial class work into the country, and the Committee hopes that plans for the appointment of country tutors will not fail to be carried out when funds are available.

Students' Society.—During this year a Students' Society has been formed, with Mr. F. Gordon Crane as President and Organiser. The students organised in this body have proved themselves most energetic in arranging socials, excursions, debates, and other activities. A Summer School on the Blackall Range has been arranged for Christmas, with Mr. B. H. Molesworth, W.E.A. Lecturer in Broken Hill, Mr. Douglas, of the Queensland University, and the Director as lecturers. These activities of the Students' Society are already bearing fruit in increased interest in the W.E.A., and augur well for the future.

W.E.A. Council.—The W.E.A. Council has again this year proved a help to the Department of Tutorial Classes, and, in particular, a Conference on Public Finance, held last month in the Trades Hall, is likely to bring fresh students at the beginning of next year.

ACCOUNTS.

29. A statement showing a true and detailed account of the income and expenditure of the University during the year ended 31st December, 1920, duly certified by the Auditor-General, is appended hereto.

I have, &c.,

POPE A. COOPER,
Chancellor.

F. W. S. CUMBRAE STEWART,
Registrar.

STATEMENT OF INCOME AND EXPENDITURE TO THE 31ST DECEMBER, 1920.

INCOME.

	£ s. d.	£ s. d.
Balance, 1st January, 1920—		
General Fund	10,901 5 3	
Workers' Tutorial Classes ..	159 15 2	
Bequests and Donations	9,469 11 11	
		20,530 12 4
General Fund—		
Government Endowment	16,400 0 0	
Interest and Bank Charges ..	371 17 2	
Lecture Fees	2,310 11 11	
Laboratory Fees	628 2 0	
Fees for use of Apparatus	336 11 11	
Matriculation Fees	126 0 0	
Graduation Fees	154 7 0	
Sale of Calendars, &c.	35 5 1	
Degree Examination Fees	516 13 0	
Public Examination Fees	2,452 12 0	
Music Examination Fees	90 0 0	
Fees for Public Lectures	35 14 0	
Fees for Testing	1 10 0	
Public Contributions towards University Representation—Pan Pacific Conference, Honolulu ..	60 0 0	
Miscellaneous Receipts	4 9 2	
Suspense Account	14 14 0	
		23,538 7 3
Workers' Tutorial Classes—		
Government Grants	600 0 0	
Senate Allowance	175 0 0	
Sale of Books	4 11 11	
		779 11 11
Bequests and Donations—		
Amounts Received for 1921, as shown on separate Statement attached	..	20,109 19 11
Total	..	£64,958 11 5

Bank Balances, 31st December, 1920—		
Commonwealth Savings Bank ..	35,499 19 0	
Queensland National Bank ..	244 0 3	
Balance as shown opposite	..	£35,743 19 3

EXPENDITURE.

	£ s. d.	£ s. d.
General Fund—		
Public Examinations		1,997 15 2
Degree Examinations		367 11 3
Music Examinations		156 3 8
Refund of Apparatus Fees		59 18 6
Salaries—		
Professors	6,067 18 1	
Lecturers and Demonstrators	7,451 17 9	
Administrative and Library Staff	1,929 3 0	
Department of Correspondence Studies	979 13 4	
Laboratory Staffs	1,744 7 7	
		18,172 19 9
Departmental Maintenance—		
Engineering	244 5 2	
Chemistry	281 2 6	
Physics	213 11 0	
Geology	119 6 3	
Biology	121 4 0	
Correspondence Studies	56 8 0	
Library	415 5 0	
Gas for Laboratories	90 3 10	
Inspection of Machinery	16 0 0	
		1,557 5 9
Administrative Expenses—		
Lighting	50 15 11	
Postage and Petty Cash	99 14 0	
Rates and Insurances	270 14 8	
Cleaning	304 13 6	
Printing, Stationery, &c.	383 17 7	
Original Papers	93 5 3	
Ceremonies	14 4 4	
Legal Expenses	21 0 0	
Travelling Expenses—Staff	151 7 8	
Stamp Duty	15 0 7	
Miscellaneous Expenditure	113 7 11	
Suspense Account	14 14 0	
		1,532 15 5
Printing of Calendars		98 13 6
Expenses, Appointments		129 14 5
University Public Lecture Committee		152 8 7
		24,225 6 0
Workers' Tutorial Classes—		
Acting Director—Salary and Allowances	450 0 0	
Clerical Assistance	150 0 0	
Tutor's Allowances	190 16 8	
Library Books and Miscellaneous Expenses	82 5 5	
		873 2 1
Bequests and Donations—		
Amount Expended as shown on separate Statement attached		4,116 4 1
Total Expenditure		£29,214 12 2
Balances, 31st December, 1920—		
General Fund	10,214 6 6	
Workers' Tutorial Classes	66 5 0	
Bequests and Donations as shown on separate Statement attached	25,463 7 9	
		35,743 19 3
Total		£64,958 11 5

BEQUESTS AND DONATIONS.

Particulars.	Balance, 1st January, 1920.	Received during 1920.	Total.	Expended or Invested during 1920.	Balance, 31st December. 1920.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Thos. Morrow Prize Fund	41 3 0	6 14 11	47 17 11	45 5 0	2 12 11
Lizzie Heal-Warry Prize Fund	12 4 4	4 0 0	16 4 4	4 4 0	12 0 4
University Equipment Fund	117 13 10	4 1 11	121 15 9	..	121 15 9
R. M. Christison Benefaction	361 19 3	55 4 2	417 3 5	*360 0 0	57 3 5
J. B. Stephens Essay Prize Fund	17 5 11	2 9 0	19 14 11	2 10 0	17 4 11
T. J. Byrnes Memorial Medal Fund	18 12 8	5 12 0	24 4 8	4 15 0	19 9 8
Archibald Scholarship Fund	106 18 2	22 10 8	129 8 10	*100 0 0	29 8 10
Robert Philp Scholarship Fund	418 4 8	69 2 10	487 7 6	*420 0 0	67 7 6
Donations—					
Faculty of Agriculture	4,036 1 4	150 14 3	4,186 15 7	..	4,186 15 7
Chemistry Equipment	603 5 0	21 2 1	624 7 1	..	624 7 1
Slade Scholarship Fund	495 1 4	23 5 10	518 7 2	*480 0 0	38 7 2
George Essex Evans Memorial Fund	8 4 0	..	8 4 0	8 4 0	..
McIlwraith Scholarship Fund	347 15 5	139 17 9	487 13 2	*400 0 0	87 13 2
Walter and Eliza Hall—					
(*a*) Fellowship—Pure Chemistry	304 3 5	..	304 3 5	154 3 0	150 0 5
(*b*) Fellowship—Economic Biology	377 13 6	500 0 0	877 13 6	413 19 8	463 13 10
(*c*) Fellowship—Engineering	75 0 0	300 0 0	375 0 0	375 0 0	..
(*d*) School of Applied Chemistry	475 16 9	1,101 4 6	1,577 1 3	999 2 11	577 18 4
(*e*) Incidental Expenses	301 7 3	100 0 0	401 7 3	69 3 1	332 4 2
Albert Norton Bequest	572 7 9	20 0 5	592 8 2	..	592 8 2
Donation—Engineering Equipment	128 0 3	4 9 7	132 9 10	..	132 9 10
John Thomson Lectureship	204 6 0	9 9 0	213 15 0	*204 6 0	9 9 0
Ford Memorial Medal Fund	9 0 0	4 10 0	13 10 0	..	13 10 0
Assistance to Returned Soldiers (attending University) Fund	437 8 1	110 10 0	547 18 1	75 11 5	472 6 8
Research Chair—Medical Psychology	..	10,000 0 0	10,000 0 0	..	10,000 0 0
Sir Samuel McCaughey Bequest	..	7,455 1 0	7,455 1 0	..	7,455 1 0
Totals £	9,469 11 11	20,109 19 11	29,579 11 10	4,116 4 1	†25,463 7 9

* Invested in Queensland Government Debentures.

† At present in Government Savings Bank, earning interest at the rate of 3½ per cent. per annum.

Brisbane, 1st April, 1921.

J F. McCAFFREY, Accountant.

I certify that the books and accounts of the University of Queensland for the year ended the 31st December, 1920, have been examined by an Inspector of this Department, and that these statements correspond therewith.

22nd July 1921.

M. H. ROBERTSON, Auditor-General.

APPENDIX I.

The University of Queensland,
Brisbane, 21st January, 1921.

The Registrar,
The University of Queensland,
Brisbane.

DEAR SIR,—I beg to submit my report on the work carried out by me during the past ten months, as Walter and Eliza Hall Fellow in Economic Biology.

I have been engaged chiefly on the following three subjects:—

(*a*) The biology of sheep-maggot flies.

(*b*) An attempt to estimate the economic importance of chalcid parasites in the control of these flies.

(*c*) During the colder months of the year, when conditions were not very favourable for this work, I began a systematic study of certain gill parasites of Queensland fishes.

Valuable results are accumulating, but as the work involves rather prolonged observations, it will not be possible to publish any results for some time.

Two unknown chalcid wasps, destructive to sheep-flies, were discovered; a study of the life history of one of these indicated that it might possibly be of economic importance, and I propose during the present year to test it under more natural conditions.

My work has been carried out under the direction of Professor Johnston.

During the year several lectures were delivered to senior students on "The relation of flies to disease."

In conclusion I wish to thank the Walter and Eliza Hall Trustees for the financial assistance rendered me during the year.

(Signed) O. W. TIEGS,
Walter and Eliza Hall Fellow in Economic Biology.

REPORT ON WALTER AND ELIZA HALL SCHOOL OF APPLIED CHEMISTRY FOR THE YEAR 1920.

The equipment ordered for the school has now been all received, but the desired equipment is still incomplete, as it has been found impossible during the last few years to secure certain plant, which is considered essential, at prices within the means at the disposal of the Senate.

The difficulty that has arisen has been partly met by the improvisation of apparatus for the time being, and by modification of the courses originally contemplated.

It has been intended, for example, to instal a small experimental multiple evaporator, but it is probable that its purchase will have to be abandoned.

I have to report the occurrence of what may well have been a disastrous fire in the Applied Chemistry laboratory, but prompt measures saved the building and equipment from total destruction. A separate report dealing with this fire has been already forwarded.

I am glad to be able to add that the building has been completely restored by the Queensland Government, and that the damage to the equipment has been made good from moneys paid by the insurance company in settlement of the claim against them.

The session 1920 was the first in which the school came into full activity. It will be remembered that the course occupies four years,

with three periods of workshop practice in the summer vacations.

Owing to the War and the voluntary departure of students to the Front, or to munition work in England, no student reached his fourth year until 1920. In that year we had eleven students distributed as follows:—First year, 5; second year, 3; third year, 2; fourth year 1.

It is gratifying to report that the quality of the students so far presenting themselves has been very good, and there is every hope that they will, by their excellence, fully justify the creation and continued existence of the school.

The first student to complete the routine work of the course is Mr. E. S. Edmiston, B.Sc., who graduated in Pure Science in 1919. Mr. Edmiston has been appointed to the staff of the Brisbane Gas Company, so that our first student has already been placed in industry.

No research work was carried out during the year, partly owing to the necessity for planning and arranging new courses, and partly owing to interruption caused by the fire.

Included in the work of the fourth-year class were exercises on the development of processes and determination of the cost of production. For example, all chemical laboratories need large quantities of iron sulphide, which was obtainable before the War at about 1d. per lb., and now costs 1s. 6d. per lb. A quantity of this material was made, and the cost estimated at less than 6d. per lb after buying the raw materials at retail price. It is hoped, by carrying out this class of work, to teach our students to manufacture products in the most efficient manner and to eliminate waste.

BERTRAM D. STEELE,
Professor of Chemistry.

APPENDIX II.

Report of the Select Committee on University Organization and Expansion.

As adopted by the Senate on the 10th December, 1920, and ordered to be printed for submission to the Government.

At the first meeting of the third Senate of the University of Queensland, held on the 12th March, 1920, the whole question of University Organisation and Expansion was discussed, and it was decided to appoint a Select Committee, consisting of Dr. J. Lockhart Gibson, Mr. Justice McCawley, the Revd. E. N. Merrington, Professor J. L. Michie, Professor B. D. Steele, Mr. J. D. Story, and the Hon. A. J. Thynne to inquire into and report upon the whole matter.

At the first meeting of the Select Committee, held on 28th April, 1920, Mr. J. D. Story was elected as Chairman of the Committee.

The Committee has met on various occasions. It has conferred with the Board of Faculties on many important matters, and has received much valuable assistance from that body. It has also conferred with other authorities.

The accompanying report is now submitted for the consideration of the Senate. The report is divided into four sections, namely: —

Part "A," which deals with the Activities of the University on the Present Site;

Part "B," which deals with the Probable Expansion and Requirements of the University on a Permanent Site;

Part "C," which deals with the Extra-mural Activities of the University, including Workers' Tutorial Classes, and the whole question of Adult Education;

Part "D," which covers the direct recommendations of the Select Committee.

Attached to the report are several appendices, containing detailed and valuable information respecting present Faculties and Departments and those which will have to be established at a later date.

The Committee desires to place on record its appreciation of the great help which it received from the Board of Faculties and the Public Lecture Committee in preparing the appendices and other data for the information of the Select Committee.

Report of the Select Committee appointed by the Senate to Report upon the Question of the Organization and Expansion of the Work of the University of Queensland.

Part "A."

Report on the Activities of the University on the Present Site.

1. In Section 20 of "*The University of Queensland Act of* 1909," it is provided that at all times in the University there shall be maintained and instruction shall be given in at least the three following Faculties, namely:—

(*a*) Faculty of Arts;

(*b*) Faculty of Science; and

(*c*) Faculty of Engineering;

provided that the Senate may, by Statute, approved by the Governor in Council, from time to time, abolish any of the said Faculties, or provide Faculties in addition to the then existing Faculties.

2. The Senate, in accordance with the intention of the above-mentioned section of the

University Act, has established Faculties of Arts, Science, and Engineering, which include the following departments:—

Arts—

Classics.

Mathematics.

Philosophy.

Modern Languages and Literature.

History and Economic Science.

Correspondence Studies (for the guidance and assistance of External students in the work for the Degree of Bachelor of Arts).

Science—

Biology.

Chemistry (including Applied Chemistry).

Geology and Mineralogy.

Physics.

Engineering—

Civil Engineering.

Mechanical and Electrical Engineering.

Mining Engineering (first three years of course).

3. The above departments have been staffed as efficiently as financial circumstances have allowed, for the work at present undertaken, and the necessary courses of study have been prescribed for the following degrees:—

Bachelor of Arts;

Master of Arts;

Bachelor of Science;

Bachelor of Science in Chemistry and Chemical Engineering;

Master of Science;

Doctor of Science;

Bachelor of Engineering in—

(*a*) Civil Engineering; and

(*b*) Mechanical and Electrical Engineering.

4. *Pro forma* Faculties of Law and Medicine have also been established. No instruction is given in these Faculties; their duties are confined to the admission *ad eundem gradum* of graduates of other approved Universities to the following degrees:—

Bachelor of Laws;

Master of Laws;

Bachelor of Medicine;

Doctor of Medicine;

Bachelor of Surgery; and

Master of Surgery.

5. An Administrative Staff has been appointed, and a Library has been established.

6. The present intra-mural activities of the University are confined to the Departments mentioned above.

ACCOMMODATION.

7. The accommodation at present available for University purposes is as follows:—

Building and Departments of University accommodated therein.

Main University Building (Old Government House)—

Administrative Office.

Senate Room.

Library.

Department of—

Classics.

Mathematics.

Modern Languages and Literature.

History and Economic Science.

Philosophy.

Correspondence Studies.

(Janitor's Quarters are also provided in this building.)

Chemistry Buildings (University)—

Department of Chemistry.

Department of Applied Chemistry.

Engineering Building (Central Technical College). This building also accommodates the Department of Engineering of the Central Technical College—

Department of Engineering, and University Engineering Laboratories.

Chemistry Block (Central Technical College)—

Geology Department (First floor, and one room on ground floor).

Physics Block (Central Technical College)—

Physics Department (Ground floor and basement, and two rooms on first floor).

Biology Department (Third floor).

8. The accommodation outlined in paragraph 7 is inadequate for the immediate needs of the University. The position is as indicated hereunder:—

Building and Remarks.

Main University Building (Old Government House)—

The accommodation is overtaxed. If the Library were removed to another building and the accommodation rearranged amongst the remaining departments, fairly satisfactory provision could be made for the existing needs of those departments.

Should any additional appointments be made (*e.g.*, Professor of English and Professor of History and Economics), rooms would have to be found for them outside the present Main Building.

Plans and estimates have already been prepared by the Works Department for the housing of the University Library on the ground floor of the Arts Block of the Central Technical College buildings. If this scheme were carried out, and the remaining rooms on the ground floor of that block were also made available for University purposes, the existing accommodation requirements of the several Departments of the Faculty of Arts and the Administrative Department would be reasonably met until the number of students attending Arts subjects materially increased, or until a further increase of staff.

Chemistry (University Buildings)—

Two additional rooms, as well as certain additional fittings, are needed to meet present requirements. The necessary details have already been furnished to the Works Department, and it is understood that the work will be put in hand as soon as possible.

Engineering (Central Technical College Block)—

The floor space at present available for the purpose of the University Engineering

Department is totally inadequate for the Drawing and Design classes. More private office accommodation for the staff is also needed. The provision of a workshop is essential. Already plans and estimates for a suitable workshop have been prepared by the Works Department.

If the whole of the Engineering Block of the Central Technical College buildings were made available for University Engineering Department purposes, and the workshop as already applied for were provided, the existing requirements of this Department of the University would be reasonably met.

Chemistry Block (Central Technical College)—

The section of this block already allotted to the Geology Department of the University is sufficient for immediate needs; but any material increase in the present enrolment would necessitate an application for correspondingly increased accommodation. An application for additional shelving for Departmental Library purposes has already been lodged with the Works Department. This shelving will not involve additional floor space.

Physics Block (Central Technical College Buildings)—

Owing to the increased attendances in Physics and Biology Departments, the floor space originally allotted to those departments has become inadequate. The present lecture room in the Physics Department is much too small for the present attendance, with the result that

the first year lectures have to be duplicated (which is a bad thing for both students and lecturers); and in the laboratories also the first year classes have to be duplicated. An additional enrolment of ten would mean triplication of first year classes. Also the second year classes for practical work would have to be duplicated if any fresh enrolments were made. Really efficient work is not possible under these circumstances.

The conditions are no less serious in the Department of Biology, where first year classes have also to be duplicated, with much sacrifice of teaching power and general efficiency.

In these two departments the whole position is becoming acute.

At present, the Physics Department occupies the basement, the whole of the ground floor, and two rooms on the first floor. The Biology Department absorbs the whole of the second floor.

For existing requirements, the whole of the first floor should be made available for the additional requirements of these two departments.

9. Although the present site cannot be regarded as the permanent home of the University, it must, nevertheless, be borne in mind—

(*a*) That a considerable time must elapse before effect could be given to a comprehensive scheme covering permanent buildings and equipment for the University.

(*b*) That in the meantime the work of the University must be carried on efficiently.

10. In these circumstances, the Select Committee recommends that the Government be requested to provide, as soon as possible, for University purposes, the following additional accommodation:—

(*a*) The whole of the ground floor of the Arts Block, Central Technical College;

(*b*) The additions to the University Chemistry buildings, as already approved;

(*c*) The whole of the Engineering Block, Central Technical College, together with a workshop as already approved; and

(*d*) The remaining part of the first floor of the Physics Block, Central Technical College buildings, which is not being used by the University at present.

11. Provided that the enrolments in the several Faculties did not increase materially during the next few years, the accommodation as indicated above would be sufficient for such a period; but fresh activities could not be undertaken. Any vigorous policy of development would have to be deferred until more extensive buildings on a permanent site could be made available for occupation by the University.

Salaries and Other Expenditure.

12. In the report of the Select Committee submitted to the Senate in December, 1918, provision was made for the following graduated schemes of increases to the teaching staff:—

(*a*) Professors—Commencing salary of not less than £600 per annum, rising to £900 per annum in annual increments of £50.

(*b*) Lecturers—Commencing salary of not less than £400 per annum, rising to £550 per annum in annual increments of £30.

(*c*) Senior Demonstrators and Assistant Lecturers—Commencing salary of not less than £300 per annum, rising to £400 per annum in annual increments of £20.

(*d*) Senior Demonstrators—Commencing salary of not less than £250 per annum, rising to £350 per annum in annual increments of £20.

(*e*) Junior Demonstrators (appointments limited to two years)—£200 per annum.

13. In the case of the Administrative Staff and other employees of the University (exclusive of the teaching staff), the salaries are based on the State Public Service awards.

14. The report embodying the above schemes was submitted to the Government early in 1919, with a request that approval be given to the proposals, and that additional endowment at the rate of £2,200 should be provided in respect of the calendar year, 1919, to enable effect to be given to the schemes. For the first half-year of 1919, the Government provided an amount of £1,100; for the second half-year no further additional sum was granted by the Government; consequently, the money required to enable the scheme to be continued had to be found by the Senate out of other funds.

15. Hereunder are furnished details showing the expenditure which will be involved in 1920 and subsequent years to enable the Senate to pay salaries in accordance with the above salary schemes, to cope effectively with the present internal work, and at the same time to meet other general maintenance expenditure:—

Faculty or Department.	1920.	1921.	1922.	Ultimate.
Salaries—	£	£	£	£
Classics	1,330	1,360	1,390	1,450
Mathematics	1,460	1,490	1,520	1,550
Modern Languages	1,520	1,630	1,710	2,000
History and Economics	1,725	1,835	1,945	2,175
Philosophy and Education	1,160	1,240	1,320	1,450
Correspondence Studies	1,180	1,250	1,280	1,350
Biology	1,330	1,430	1,530	1,700
Chemistry	2,945	3,065	3,145	3,200
Geology	1,485	1,595	1,700	1,855
Physics	2,070	2,170	2,270	2,450
Engineering	3,480	3,630	3,730	3,830
Administration and Library	2,133	2,350	2,450	2,500
Total expenditure on account of salaries	21,818	23,045	23,990	25,510
Maintenance of Departments	1,650	1,650	1,650	1,650
Degree Examination expenses	500	500	500	500
Cleaning	600	650	700	700
General expenditure	1,886	2,000	2,000	2,000
Total expenditure required to meet present activities (Arts, Science, Engineering, Administration, and Library)	26,454	27,845	28,840	30,360

16. In the foregoing particulars no allowance has been made for any increase in the rates of salaries, as shown in paragraph 12 above; in the meantime, the rates of salaries of public servants have been substantially increased. For example, the classification salaries of Primary School Inspectors range from £500 to £650 per annum. The salaries of independent Lecturers in the University range from £400 to £550 per annum.

17. Obviously, the University Lecturers should be paid salaries at a rate not less than those paid to Primary School Inspectors.

18. If the present graduates schemes were increased so as to place the salaries of the Lecturers on the basis of those of the Primary School Inspectors, a corresponding increase would also be necessary in the case of salaries of Professors. This, in turn, would necessitate an amendment of the present scheme, as follows:—

(*a*) Professors—Commencing salary not less than £700 per annum, rising to £1,000 per annum in annual increments of £50.

(*b*) Lecturers—Commencing salary of not less than £500 per annum, rising to £650 per annum in annual increments of £30.

(*c*) Senior Demonstrators and Assistant Lecturers—Commencing salary of not less than £350 per annum, rising to £450 per annum in annual increments of £20.

(*d*) Senior Demonstrators—Commencing salary of not less than £300 per annum, rising to £400 per annum by annual increments of £20.

19. The ultimate additional expenditure which would be required to give effect to the proposed increases, in the case of the existing staff, would be approximately £3,000 per annum.

PRESENT SOURCES OF REVENUE.

20. The only permanent sources of revenue possessed by the Senate at present (other than Government endowment) to meet the general expenditure of the University are the fees (matriculation, lecture, laboratory, examination, and graduation fees) charged to students (other than scholarship-holders) attending the several courses. In addition, an endowment of £800 per annum has been promised by the Trustees of the Walter and Eliza Hall Trust towards the cost of maintenance of the School of Applied Chemistry for four years as from the 1st April, 1920. There is no guarantee, however, that this allowance will be continued after the expiration of the period in question.

21. The scheme of Public Examinations conducted by the University has not been established on a revenue-producing basis, but rather with a view to ensuring that these examinations would not necessitate expenditure from general University funds. Conversely, the Public Examinations should not be employed in the direction of meeting in part the internal expenditure of the University. Therefore they should not be taken into consideration in connection with any scheme for supplementing the general funds of the University.

22. Also the University will participate in the annual income from the estate of the late Sir Samuel McCaughey, from which the University will probably receive about £7,500 a year. It is felt, however, that the revenue from this source should be employed in creating new activities, and that only under stress of absolute

necessity should it be merged in the general revenue to meet, in part, expenditure on account of the present activities of Faculties already definitely created under the University Act.

23. Based on the present enrolments and on existing rates of fees, the revenue expected from the following sources in 1920 is as follows:—

	£
Lecture and laboratory fees	2,500
Matriculation fees	150
Graduation fees	180
Fees for the use of apparatus	180
Degree Examination fees ..	500
Sale of Calendars, &c. ..	50
	£3,560

24. In the usual course of increase in the number of students enrolling in the present Faculties, the total amount of fees per annum might reasonably be expected to reach from £4,500 to £5,000 by the time the scheme of increases matures.

Endowment Required.

25. From the above particulars it will be seen that, to enable the present scheme of work to be fully maintained, and at the same time to provide for other pressing necessities which may arise, an endowment of about £25,000 would be required. Should the rates of salaries be increased in accordance with the proposals as contained in paragraph 18, an endowment of £28,000 would be needed. The Select Committee recommends that the Government be asked to amend the University Act to the extent of permanently appropriating an annual endowment of not less than £28,000 to cover the present activities of the University.

Part "B."

Report on Probable Expansion and Requirements of the University on Permanent Site.

QUESTION OF PERMANENT SITE.

26. Three possible sites have been considered, namely:—

(*a*) Victoria Park;

(*b*) St. Lucia Estate, Toowong; and

(*c*) Yeronga Park.

27. The Victoria Park site has been supported by previous Senates, and by the Council of the University; and it is believed that this site is the one which is most favoured by the public generally. Already an area of 60 acres has been set apart for University purposes, the deed for which was issued in the name of the Secretary for Public Instruction.

28. The Select Committee has been advised that the Minister for Education forwarded the deed to the Department of Lands, with a view to the issuing of a fresh deed in the name of the Senate. The Brisbane City Council has agreed to surrender 111 acres of Victoria Park to the Senate for University purposes. The combined area would be 171 acres.

29. Final action, however, has not been taken to vest the combined area in the Senate, and consequently a permanent site for the University has not yet been secured. The Select Committee is of opinion that the Victoria Park site is the most suitable of all the sites available, and they recommend that the Government be once more approached and asked to have the site vested in the Senate with the least possible delay.

ACTIVITIES ON PERMANENT SITE.

30. Any comprehensive scheme of University development and expansion on the permanent site must include provision for:—

(*a*) Effective administration;

(*b*) The proper development of the present Faculties—Arts, Science, and Engineering;

(*c*) A well-equipped and efficiently administered Library;

(*d*) The establishment of new Faculties and Departments, *e.g.*,

(i.) Faculty of Agriculture;

(ii.) Faculty of Commerce;

(iii.) Department of Education;

(iv.) Faculty of Law;

(v.) Faculty of Medicine (including Dentistry);

(vi.) Faculty of Music.

These matters are dealt with *seriatim* hereunder.

ADMINISTRATION.

31. Particulars in regard to the staff required for the ordinary administrative work of the University appear in Appendix I attached.

32. In dealing with this side of University organization, the necessity for the institution of a chief administrative and educational officer will ultimately have to be considered. At the recent Conference of Australian Universities, it was pointed out that Australian University experience shows that whilst the smaller Universities might be able to do satisfactory work under the headship of a Chancellor or Vice-Chancellor who gave such time to the University as they could reasonably spare from the demands of their ordinary vocational duties, it had become evident in the larger Universities that as soon as they reached a certain stage of development it became absolutely essential to have a full-time

head. The following resolution was carried by the Conference:—

> "That it is desirable, for more effective working, and consonant with the general character of Australian Universities, that the appointment of an officer of high status, who could adequately represent both the administrative and the educational aspects of the University before other Universities and the public generally, be seriously considered."

33. If the position of Principal were created, the salary should be not less than £1,200 a year. This amount would be in addition to the sum of £3,831 entered in the Schedule on account of Salaries for the Administrative Staff.

PROPER DEVELOPMENT OF PRESENT FACULTIES.

34. In any complete scheme of University expansion, the full development of the present Faculties should be ensured. This development has to be met in two directions, namely:—

(*a*) Extra assistance and maintenance due to increased numbers; and

(*b*) The introduction of systematic instruction in important subjects at present untouched or dealt with only in outline.

35. In the reports of several of the Departments concerned (details of which will be found in Appendices III. to VIII. attached), a general idea of the nature of the development to be expected has been indicated. In the Faculty of Arts, development will be required in such branches as Psychology, Economics, History, Law, and Modern Languages.

36. After a careful survey of the whole field of activities of the present Faculties, the Board of Faculties advises that in the full process of development an all-round increase of about 35 per cent. on the present expenditure would be needed in the Faculty of Arts, 25 per cent. in the Faculty of Science; and 50 per cent.

in the Faculty of Engineering. The annual expenditure to be finally provided for in respect of these Faculties would therefore be as follows :—

Faculty.	Present Commitments.	Approximate Percentage Increase.	Estimated Cost.	Estimated Increase.
	£	Per cent.	£	£
Arts (including Correspondence Studies)	10,000	35	13,500	3,500
Science	10,200	25	12,750	2,550
Engineering ..	3,520	48	5,200	1,680
Total ..	23,720	33	31,450	7,730

The above estimate is based on the present scheme of salaries; if the rates were increased as proposed in paragraph 18 hereof a corresponding increase would have to be allowed for in this estimate.

37. A well-equipped and efficiently administered Library is a most necessary and important adjunct of all branches of work in the University. The requirements of the Library, in the matter of Staff, accommodation, equipment, and maintenance, are fully set forth in Appendix II attached.

Faculty of Agriculture.

38. The Select Committee has given full attention to the demands from Agricultural Societies, Chambers of Commerce, and other interested bodies, for the establishment of a Department of Agriculture in the University.

Very careful consideration has also been given to the best way in which the University might assist in the development of Agricultural Education in Queensland.

39. The matter is fully discussed in the report of the Board of Faculties, as appearing in Appendix IX hereto. Reference is also directed to the Report of the Select Committee on Agricultural Education, which was published on the 7th December, 1917.

40. The Committee has also conferred on this subject with the Principal of the Gatton Agricultural College.

41. After very searching investigation, the Committee has come to the conclusion that the time is not yet ripe for the establishment of a full Degree Course in Agriculture, but that much useful work could be done at this stage in the furtherance of Agricultural Education by the establishment of a Diploma Course under University supervision. Initial steps should therefore be taken towards a Faculty of Agriculture in so far as it would be necessary to provide for University supervision over the Diploma Course work.

42. The Committee therefore recommends that the recommendations of the Select Committee on Agricultural Education, as contained on pages 9, 10, and 11 of the report of that Committee, be re-affirmed, and that the Senate communicate direct with the Department concerned with a view to having effect given to those recommendations; also that all bodies interested be furnished with a copy of the report, and their assistance be invited in having the scheme brought into operation.

Faculty of Commerce.

43. The subjects to be included in the teaching work of a Faculty of Commerce, and

the staff required and expenditure involved in connection therewith, are set forth in the Report of the Board of Faculties, as contained in Appendix X hereto.

44. At the present time there is a growing tendency in England and elsewhere to look to the Universities to train men capable of filling the more important positions in the business world. It is being found that, to enable the large business concerns to meet successfully the rapidly changing conditions of the present day, it is necessary to have highly trained men, not only on the manufacturing side, but also in the executive departments.

45. In Brisbane, the Chamber of Commerce, by its inaugurating of a series of midday lectures for business men, has acknowledged a desire for a wider outlook and a better understanding of present day problems affecting the community generally. The services of the University staff have been largely availed of in connection with these lectures.

46. Amongst the employees (especially the type of man who under present circumstances proceeds to membership of the Institute of Accountants or the Institute of Secretaries) there is a feeling that, whilst the technical or vocational courses of study to be covered in order to gain membership, tend to produce greater efficiency in the more or less mechanical side of their work, these courses do not provide simultaneously a systematic training in the wider aspect of citizenship. Many of these men would like to continue their studies in general educational or cultural subjects.

47. For some years to come, the Course of Commerce would, in the main, be taken advantage of by men already in employment, rather than by students who hoped to obtain appointments in commercial circles after completing a

University course. Essentially, it would therefore be a course for evening students and should be designed to meet more particularly the case of men who left school (say) at the Junior Public Examination stage to enter employment in the Public Service, or in banking, commercial, or insurance institutions.

48. In the above circumstances, it might be more expedient at this stage to establish a Diploma Course in Commerce, rather than a full Degree Course. The present would appear to be an opportune time to make a forward move in this connection. Already, the Federal and the Queensland Institutes of Accountants have intimated their intention of approaching the Secretary for Public Instruction to introduce legislation in regard to the registration of Accountants. The Senate might appropriately approach him at the same time and suggest that a University Degree or Diploma in Commerce should be prescribed as the requisite qualification.

49. To regulate the work of a Diploma in Commerce, and to ensure for it the public support which should be forthcoming, a Board of Studies might be formed, to consist of—

(*a*) The Professors and Lecturers of the University whose subjects would be amongst those to be taken by Commerce students;

(*b*) The Supervisor of the Commercial Department of the Central Technical College;

(*c*) Representatives of the Federal and the Queensland Institutes of Accountants;

(*d*) A representative of the Queensland Institute of Secretaries;

(*e*) A representative of the Chambers of Commerce.

50. The entrance requirements for a Diploma Course should be such as to encourage men who have already obtained their Accountancy qualification to proceed to the Diploma in Commerce. The maximum exemption in connection with the Course itself should also be allowed on account of the work covered for the Accountancy qualification.

51. The number of students who sit annually for the examinations of the Institutes of Accountants is about sixty. Should the above proposals be adopted, an immediate enrolment of not less than thirty might be expected in the Diploma Course.

52. The Select Committee is of opinion that for the present there would not be an adequate demand for a full Degree Course in Commerce, but that the establishment of a Diploma Course would be fully warranted.

53. The Committee therefore recommends that the above proposals be submitted for favourable consideration to the Secretary for Public Instruction, and to other bodies concerned.

Diploma of Education.

54. In Section 20 of the University Act, it is provided that there shall be granted by the University a Diploma in Education to such persons as, under the statutes, are from time to time entitled to receive the same.

55. The matter of the staff, equipment, and accommodation which would be needed for a full Diploma Course in Education within the University is dealt with in Appendix III.

56. Those taking the course for a Diploma in Education would be mostly employees or prospective employees of the Department of Public Instruction. The question therefore arises, whether the Department of Public Instruction should not be asked to provide, for

this purpose, a separate vote, which would enable the University to make full provision for the work associated with the Diploma in Education. The Committee therefore recommends:—

(*a*) That steps be taken for the granting of a Diploma in Education;

(*b*) That in order to enable the Diploma Course to be inaugurated, a full time Lecturer in Educational Science be appointed;

(*c*) That the Department of Public Instruction be requested to increase the direct subsidy of £300 per annum to at least £750 per annum to enable this action to be taken;

(*d*) That for the purposes of the Diploma Course, a special Board of Studies be appointed;

(*e*) That Masters of Method be provided either by the Department of Public Instruction or by the Teachers' Training College; the appointments to be subject to the approval of the Senate of the University.

Faculty of Law.

57. Particulars in regard to the staff, equipment, and accommodation needed for a Faculty of Law are contained in Appendix XI.

58. It would be premature to inaugurate a Faculty of Law at present; but is is desirable that a Lectureship in Law should be created as early as practicable, and that certain legal sub-

jects should be included as optional subjects in the courses for the degree of Bachelor of Arts. This proposed extension of work in the Faculty of Arts would be of great advantage to students who intend after graduating to read for the Bar, and it should be possible to arrange that a pass in any of these subjects should be accepted as a pass in that subject by the Board of Examiners of Solicitors and Barristers.

59. The Select Committee therefore recommends the appointment as soon as possible of a Lecturer in Law, to organize and carry out the lecture work in the subjects referred to in the preceding paragraph.

60. The question of establishing a full Degree Course in Law might be deferred until the Senate is definitely requested to conduct these examinations or to establish a Faculty or a Department of Law.

FACULTY OF MEDICINE (INCLUDING DENTISTRY).

61. There is a strong and growing demand for the establishment of a Faculty of Medicine (including Dentistry) in this University. The position is fully dealt with in Appendix XII hereto.

62. It would not be possible to make the necessary provision on the present site for the accommodation which would be needed for a Faculty of Medicine.

63. In the meantime, students desirous of taking the Medical Course must proceed to other Universities; and it is possible that some of the students do not return to Queensland. The

position might be met temporarily by the establishment of a limited number of scholarships under approved conditions to the Faculties of Medicine (including Dentistry) in the other Australian Universities. This could be regarded only as a temporary expedient to meet in a measure the present circumstances, pending the establishment of a full Faculty in this University.

64. The Select Committee is of opinion that the establishment of a full Faculty of Medicine (including Dentistry) in connection with the University should be regarded as one of the important requirements.

Music.

65. The question of the provision which should be made for the teaching of Music within the University is discussed in Appendix XIII hereto.

66. Since the particulars contained in the Schedule in question were submitted by the Board of Faculties, the Director and the Secretary, State Conservatorium of Music in New South Wales, have visited Brisbane; and it is understood that, following on their visit, steps independent of the University are being taken for the establishment of a Conservatorium here. As the principal supporters are of opinion that the Conservatorium should not be under the control of the University, the Select Committee recommends that no further action be taken at present by the University regarding the establishment of a Department of Music in the University.

67. The University might, however, through its Music Committee, and its Public Examinations in Music, continue to assist in the movement of raising the standard of Music in Queensland.

PERMANENT ACCOMMODATION.

68. In any scheme of permanent accommodation, suitable provision should be made for at least ten to twenty years ahead of the time when such accommodation would actually be available. During such interval, it is expected that the number of students attending the University will have increased to about one thousand.

69. Consideration must therefore be given to the buildings and equipment which would be needed to meet, not only the increasing requirements of the present Faculties and Departments, but also the new activities.

70. Details of the accommodation which will probably be required for all purposes are contained in the accompanying Schedules. A summary of the particulars is furnished hereunder:—

Particulars.	Floor space required in square feet.
(*a*) *Existing Faculties (including Provision for New Departments).*	
Administration, including main hall, &c. (Section 2, Appendix I.) ..	14,500
Quarters for Janitor, etc. (Section 3, Appendix I.)	2,000
Common rooms (Section 4, Appendix I.)	6,050
Library (Section 2, Appendix II.) ..	17,820

Particulars—*continued:*	
Faculty of Arts (including Education C. S. Dept., Commerce, and Law (*see* Schedule to Appendix III.)	30,000
Faculty of Science.	
Biology (Appendix IV.)	11,660
Chemistry (Appendix V.)	20,700
Geology (Appendix VI.), say ..	10,500
Physics (Appendix VII.)	15,900
Faculty of Engineering. (Appendix VIII.)	26,100
	155,230
(*b*) *New Faculties.*	
Faculty of Agriculture (Appendix IX.)	4,000
Faculty of Medicine (Appendix XII.)	30,840
Total floor space required (not including accommodation for Music)	190,070

71. The Select Committee recommends that the above particulars be furnished to the Government, and that the Government be requested to have plans and estimates prepared with a view to arriving at the probable cost of buildings and equipment as a first step towards determining the way in which funds are to be provided.

COST OF REMOVAL, AND ADDITIONAL EQUIPMENT.

72. It is estimated that the cost of removal of the present equipment and removable fittings to a fresh site, and of the additional apparatus and equipment which would be needed to meet normal developments during the period under review, would be as follows:—

Faculty or Department.	Estimated cost of Removal of present Fittings, Etc.	Estimated Cost of Additional Furnishing and Equipment Needed.	Total.
	£	£	£
Administration (Appendix I.)	20	*	20
Library (Appendix II.)	100	*	100
Departments of Faculty of Arts (Appendix III.)	100	*	100
Biology (Appendix IV.)	200	* 2,100 ‡	2,300
Chemistry (Appendix IV.)	300	* 2,000 ‡	2,300
Geology (Appendix VI.)	150	* 900 ‡	1,050
Physics (Appendix VII.)	300	* 1,600 ‡	1,900
Engineering (Appendix VIII.)	13,000	* 4,000 ‡	17,000
*Furniture, new fittings. &c., for above Departments. (*See* particulars in relative Schedules)	..	14,400	14,400
New Faculties.			
Agriculture (Appendix IX.)	..	3,000	3,000
Medicine (Appendix XII.), Furniture and Fittings	..	10,000	10,000
Equipment	..	9,000	9,000
Total	£14,170	£47,000	£61,170

‡ Additional apparatus and equipment, other than furniture and fittings.

Annual Maintenance.

73. The annual expenditure involved, to cover salaries and general maintenance (salaries being based on maximum rates provided in present graduated scheme of increments), is estimated at £62,751, made up as follows:—

Department.	Amount. £
Administration (including general expenses of University (Appendix I.)	7,831
Library (Appendix II.)	2,950
Faculty of Arts	13,500
Faculty of Science	12,750
Faculty of Engineering	5,200
	42,231
New Faculties and Departments—	
Medicine (Appendix XII.)	9,150
Dentistry (Appendix XII.)	1,000
Law (Appendix XI.)	2,150
Commerce (Appendix X.)	1,500
Agriculture (Appendix IX.)	3,420
Education (Appendix III.)	2,100
Salary of a Principal (if appointed) ..	1,200
Total estimated annual expenditure ..	62,751

74. As against the above expenditure, the following revenue might be expected:—

	£	£
(*a*) Estimated annual expenditure		62,751
(*b*) Students' fees	12,000	
(*c*) Revenue from McCaughey bequest	7,500	
		19,500
(*d*) Balance required by way of Government or other endowment		£43,251

In the above estimate, the salaries of the staff have been based on the present rates; any increases in those rates would mean a corresponding advance in the above particulars.

Part "C."

Report on Extra-Mural Activities of the University, including Workers' Tutorial Classes and Adult Education.

Workers' Tutorial Classes.

75. Following on the visit to Brisbane in August, 1913, of Mr. Albert Mansbridge, Secretary to the Workers' Educational Association of Great Britain, a branch of the Workers' Educational Association was formed in Brisbane.

76. Subsequently, an application was received by the Senate for tutorial assistance for classes in Economics and Economic History; and Professor Mayo and Mr. Melbourne courteously undertook to act as tutors in an honorary capacity until the end of that year.

77. In 1914 it was found that, in order to make suitable arrangements for carrying on the Tutorial Classes which were being formed by the Workers' Educational Association, it would be necessary to strengthen the staff of the Faculty of Arts in the University. In the meantime it was arranged that the part-time services of Mr. Melbourne should be made available for the Tutorial Classes.

78. Mr. Melbourne enlisted for service with the Australian Imperial Forces in August, 1914; and his Tutorial Class work was carried on by Mr. Alcock, Lecturer in History and Economics, and Professor Mayo until the end of the year.

79. In 1915 the classes were continued by Mr. Alcock under an arrangement whereby he was granted assistance in his Department to enable him to act as tutor to the Workers' Tutorial Classes.

80. On the Estimates for 1915-1916, provision was made for additional endowment to

the University to enable certain new appointments to be made in the Faculty of Arts, amongst them being those of a Lecturer in Economics (who would act also as a Director of the Workers' Tutorial Classes) and an Assistant Lecturer in History and Industrial History. It was estimated that the assistance to be given by the holders of these two appointments would represent approximately half the full-time services of a permanent Lecturer, or, reckoned on a salary basis, an expenditure of £175 per annum.

81. The latter position was filled by the appointment of Mr. A. C. V. Melbourne, B.A., as from the 1st March, 1916; applications were invited at the same time for a Lecturer in Economics. The gentleman selected for the position was advised by cable on the 1st April, 1916; but owing to his having made other arrangements between the date of application and the date on which he received notice of his appointment, he was unable to accept the position.

82. In June, 1916, Mr. T. C. Witherby, M.A., was appointed to act temporarily from the 1st July, 1916, to the 31st December, 1917, as Lecturer in Economics and also as Acting Director of the Workers' Tutorial Classes. This temporary appointment has been renewed from year to year.

83. At about the same time (1916), the Senate appointed a Joint Committee to control, under the general direction of the Senate, the arrangements in connection with the Workers' Tutorial Classes. The Joint Committee consists of four members appointed by the Senate and four members nominated by the Workers' Educational Association.

84. Shortly after Mr. Witherby was appointed, it was found that the work of the Tutorial Classes was occupying virtually the whole of his time; it was therefore arranged

that he should be relieved of his actual University work. In the re-arrangment that was ultimately made, Mr. Melbourne's full-time services became available for the lecturing work within the Department of History and Economic Science in the University.

85. In 1917, applications were received for additional classes, and the Government was asked to make funds available for the purpose. Ultimately, a separate vote of £1,000 was provided, £600 of which represented endowment for the Workers' Tutorial Classes, and £400 for organising and other expenses of the Workers' Educational Association. The latter amount is paid direct by the Department of Public Instruction to the Workers' Educational Association.

86. The Senate, in view of the circumstances set forth in paragraph 80 above, decided to continue to make an amount of £175 per annum available on account of the Workers' Tutorial Classes; this amount, together with the endowment of £600 per annum referred to in the preceding paragraph, yielded a total revenue of £775 per annum for the Workers' Tutorial Classes.

87. In 1918, the Senate approached the Government to ascertain whether it would be safe for the University to assume that the endowment of £600 a year would be continued (say) for three years or longer. This inquiry was made so as to enable the Senate to determine whether steps could be taken to make a permanent appointment to the position of Director of Tutorial Classes. However, the necessary assurance was not given by the Government, consequently temporary arrangements have had to be made from year to year.

88. In the meantime, the Workers' Educational Association has proceeded with its work

of organizing fresh classes. To meet the present requirements, the Joint Committee reports that the following provision should be made:—

	£	
(*a*) General—		
Salary of Director	600	
Clerical assistance	150	
Tutors for Tutorial Classes (11 at £60)	660	
Class libraries	100	
Travelling expenses	100	
Contingencies (including office expenses)	100	
	——	1,710
(*b*) Country Centres.—		
Salary of tutor	400	
Travelling and miscellaneous expenses	100	
	——	500
		£2,210

89. In connection with the Estimates for 1918-1919 and 1919-1920, application was made to the Government for increased endowment to enable the work to be extended. The increase asked for was not provided; hence no policy of development has been possible.

90. The Acting Director has now intimated that his services will not be available after the end of the current year.

91. The present circumstances relating to the Workers' Tutorial Classes are as follows:—

(*a*) The existing temporary staff arrangements will cease at the end of the year;

(*b*) The work cannot be satisfactorily continued, or any provision made for expansion, on the present endowment of £600 per annum;

(*c*) To enable the Joint Committee to make suitable arrangements for carrying on the work effectively, an annual endowment of at least £2,210 will be required;

(*d*) To place the work on a permanent and efficient basis, it would be necessary to appoint a Director for a period of (say) five years in the first place. Other necessary appointments should be on the same basis. The Senate cannot do this unless the Government will give a satisfactory assurance that the endowment will be continued for such a period;

(*e*) The Select Committee is of opinion that endowment for the Workers' Tutorial Classes, which have already been organised, is one of the urgent requirements, and that the necessity of an immediate decision in this matter should be emphasised.

ADULT EDUCATION.

92. The whole question of Adult Education is one which is now receiving serious attention in England and elsewhere. In Australia it is also becoming a question of much importance.

93. The matter was discussed at the recent Conference of Australian Universities held in Sydney, when the following resolution was carried:—

> "That it is the opinion of this Conference that so long as the internal activities of the Universities are strengthened in due proportion, the promotion of a comprehensive scheme of non-matriculated adult education is a proper and necessary extension of University activity."

94. The problems arising out of the war, and the rapidly-changing social and economic

conditions of the present day, are awakening in the minds of the community generally a realisation of the necessity of their being able to understand and to help in the solution of the common problems of human society. This realization can be translated into actual accomplishment only when the citizens of the country acquire the fundamental knowledge necessary therefor, and develop a facility enabling them to give expression to their experiences and ideals.

95. With a view to stimulating interest in this matter, the Senate, in 1919, appointed a University Public Lecture Committee consisting of four members of the Senate, four members of the staff, and four members of the University Council.

96. The activities of this Committee last year included a series of public lectures in a central hall in Brisbane, also a number of midday lectures by members of the University, in connection with a series arranged by the Chamber of Commerce for business men.

97. During the current year, the Public Lecture Committee has arranged for a series of public lectures as in 1919, and has again been able to deal favourably with a request from the Chamber of Commerce for assistance in connection with its programme of midday addresses. Both in 1919 and during the current year, the public lectures have been well attended. In addition, the Committee has this year done much to bring the University into closer touch with the adult population in the following directions:—

(*a*) *Regular University Lecture Courses.*—Public attention has been invited to the fact that any University course might be attended by any person who paid the prescribed fee therefor. The response has been encouraging, and it is expected that there will be a

much larger enrolment of non-matriculated adults during the next and the following years.

(*b*) *Special Intra-mural Courses.*—As an initial step, a special course of five lectures on European Civilisation has been arranged. Thirty applications, accompanied by the prescribed fee in each case, have been received. The Committee, in the light of this year's experience, is of opinion that the University could, with suitable facilities, open up a useful field of work amongst adults in this way.

(*c*) *Special Lecture Course at Toowoomba.*—A special course of lectures in Psychology at Toowoomba has also been arranged, and a class of seventy enrolled. Much enthusiasm is being shown in the work at this centre.

98. The Public Lecture Committee fully recognises that the public lectures, covering, as they do, a series of isolated, disconnected topics, do not provide any systematic educational training; on the other hand, however, they arouse and stimulate in the audience a desire for further knowledge in regard to the topics discussed. It is therefore evident that the public lectures should be supplemented by a scheme providing suitable courses of systematic study.

99. The Public Lecture Committee has already adopted in outline a scheme to meet the situation mentioned in the preceding paragraph. A copy of the proposed scheme is contained in Appendix XIV. attached. The Select Committee endorses generally the intention of the scheme, so far as it serves to illustrate a basis of organization and development for this branch of extra-mural University work.

100. The University of Queensland, as its name implies, was intended by the Legislature

to be a Queensland rather than a Brisbane institution. An effective scheme of Adult Education, established on a suitable basis, would serve as a useful avenue through which to extend the influence of the University to country districts.

GENERAL.

101. The inauguration of a comprehensive scheme of Adult Education is desirable. Such a scheme would be capable of development side by side or co-operatively with the present system of Workers' Tutorial Classes. Much work in common would, however, be covered under both systems. The co-ordination of the two schemes would therefore be desirable, as far as practicable; both in the interests of efficiency and of economy; but the Select Committee dissociates itself from any proposal for the absorption of the Workers' Tutorial Classes. Doubtless a suitable scheme could be evolved, embodying the intention of both whilst preserving the fundamental principles of each.

102. In view of the circumstances mentioned in paragraph 90 above, the present would appear to be a most opportune time to take this whole matter into serious consideration and to decide definitely the future policy to be adopted in these branches of University work.

103. As both these phases of education, however, are ones which, though constituting important branches of extra-mural University work, concern the State as a whole, the Select Committee recommends that the circumstances be placed fully before the Government, with a view to ascertaining whether the Government will provide, by way of a special annual vote, the funds necessary to develop a wide scheme of Adult Education which would cover the fields at present embraced in the work of the Public Lecture Committee and be developed side by side or co-operatively with the Workers' Tutorial Classes.

Part "D."

Recommendations of the Select Committee.

104. The recommendations of the Select Committee, covering the several matters dealt with in this Report, are stated briefly hereunder—

(i) *Additional Accommodation Immediately Required.*—That the Government be requested to have the additional accommodation specified in paragraph 10 made available and ready for occupation by the University before the beginning of the academic year 1921.

(ii) *Present Commitments (including New Salary Schemes).*—That in view of the circumstances set forth in paragraphs 12 to 25, the Government be requested to amend the University Act so as to appropriate permanently an annual endowment of £28,000 on account of the present intra-mural activities of the University.

(iii) *Permanent Site for the University.*—That the Government be again approached with a view to having the proposed site in Victoria Park vested in the Senate as soon as possible.

(iv) *Expansion of Present Activities on Permanent Site.*—That in any comprehensive scheme of University expansion on the permanent site, due provision should be made, as indicated in paragraphs 34-37, for the adequate development of the present Faculties.

(v) *Faculty of Agriculture.*—That the particulars contained in paragraphs 38-42 be communicated to the Government and to other interested bodies, with a recommendation that, although the time is not yet ripe for the inauguration of a full Degree Course in Agriculture in the University, the necessary steps should be taken without delay to have Agricultural Education organized so as to lead up to a Diploma

Course under University supervision; to be followed later by the establishment of a full Faculty or Department of Agriculture within the University as soon as circumstances permitted.

(vi). *Faculty of Commerce.*—That the proposals set forth in paragraphs 43-53 of the Report be submitted for the consideration of the Government and the Institutes mentioned; and that it be a recommendation that the initial action should be taken as early as practicable towards instituting a Diploma Course in Commerce which would pave the way for a full Faculty or Department as the work developed.

(vii) *Diploma in Education.*—That the Department of Public Instruction be invited to co-operate with the University in providing for a Diploma in Education on the lines indicated in paragraphs 54-56.

(viii) *Faculty of Law.*—That, to meet the circumstances mentioned in paragraphs 58 and 59, a Lecturer in Law be appointed under the Faculty of Arts; but that the question of establishing a full Degree Course in Law be deferred until the Senate is definitely requested to conduct the Law Examinations or to create a Faculty or a Department of Law within the University.

(ix) *Faculty of Medicine.*—That the particulars appearing in paragraphs 61-64 and in Appendix XII be brought suitably under the notice of the Government, with an intimation that the establishment of a Faculty of Medicine (including Dentistry) is one of the important requirements of the University.

(x) *Faculty of Music.*—That as it is understood that steps, independent of the University, are already being taken to found a Conservatorium of Music in Brisbane, no action be taken at present to inaugurate a Department of Music within the University, but that the University

continue to assist, through its Music Committee and its system of Public Examinations, in the movement of raising the standard of Music in Queensland.

(xi) *Permanent Accommodation.*—That the details contained in paragraphs 68-71 be submitted to the Government, with a request that plans and estimates be prepared with a view to arriving at the probable cost of buildings, as a first step towards determining the way in which funds are to be provided.

(xii) *Cost of Removal and Additional Equipment, &c.*—That the particulars in paragraph 72, estimating at £61,170 the cost of removal of the present equipment and removable fittings to the permanent site, and the cost of obtaining and installing the additional furniture, apparatus, and equipment needed for the expanded activities thereon, be submitted to the Government for its information.

(xiii) *Annual Maintenance of Full Activities on Permanent Site.*—That in view of the details set forth in paragraphs 73 and 74, it be reported to the Government—

(*a*) That, based on present rates of salaries and other expenditure, an annual endowment of about £44,000 would be required, in addition to the revenue from the McCaughey bequest and from students' fees, to enable the whole of the activities mentioned above to be undertaken.

(*b*) That the increased rates of salaries specified in paragraph 18 would necessitate a corresponding increase in the rate of endowment mentioned in (*a*) above.

(xiv) *Workers' Tutorial Classes.*—That the attention of the Government be invited to

paragraphs 75-91 of the Report, and particularly to paragraph 91; and that the Government be requested to advise the Senate as soon as possible what provision it is proposed to make for these classes, and whether the Senate could rely upon a continuance of the Vote for a period of (say) at least five years, so as to enable it to make the necessary appointments for a period of five years in the first place.

(xv) *Adult Education.*—That the attention of the Government be also invited to paragraphs 92-103; and that the Government be requested to state to what extent it would be prepared to assist in the inauguration and development of a broad and suitable scheme of Adult Education.

ORDER OF URGENCY OF THE SEVERAL ACTIVITIES.

105. After a full and general review of the complete field of University Activities, in the light of the requirements of the State as a whole, the Select Committee is of opinion that, in order of urgency, the several matters dealt with in this Report should be placed as follows:—

(i) The provision of the further accommodation which will be needed as from the beginning of next year;

(ii) Full provision for the adequate development of the present obligations of the University, including readjustment of salaries, based on length of service in present status, under the amended schemes set forth in paragraph 18. Provision for a Lecturership in Law under the Faculty of Arts to be included also under this heading;

(iii) The securing to the Senate of a permanent site for the University to be followed as soon as practicable by the

erection of the necessary buildings and the removal of the present activities thereto;

(iv) The inauguration of a Diploma in Education;

(v) Satisfactory provision for the Workers' Tutorial Classes which have already been established;

(vi) The organization of Agricultural Education on a Diploma Course basis, under University supervision; to be followed by the establishment of a full Faculty of Agriculture as soon as there is an adequate demand therefor, and the permanency of a satisfactory enrolment can be assured;

(vii) The provision of full degree courses in Medicine, Surgery, and Dentistry, together with the staff, equipment, and accommodation needed therefor;

(viii) The organization of Commercial Education on a Diploma Course basis; to be followed by the establishment of a Faculty as soon as circumstances warrant such action;

(ix) The inauguration of a comprehensive scheme of Adult Education;

(x) The establishment of a Faculty of Law.

Sir Samuel McCaughey Bequest.

106. This University's share in the revenue from the Sir Samuel McCaughey Estate is estimated at about £7,500 per annum. This would admit of some immediate extension of University activities, if it could be positively assumed that the Government would provide the further

endowment required for the present activities, and would indicate at the same time what new activities it would be prepared to finance.

NEXT STEP RECOMMENDED.

107. Until it is known definitely what further financial provision will be made by the Government for University purposes, it will not be possible for the Select Committee to submit to the Senate a concrete scheme of immediate University expansion; the Committee therefore recommends—

(*a*) That a copy of this report be sent to the Honourable the Premier, with a request that he will be good enough to advise the Senate as soon as possible as to the extent to which the Government is prepared to provide for the recommendations contained in this report.

(*b*) That when the decision of the Government has been communicated to the Senate, the Select Committee furnish a report to the Senate as to immediate University expansion, based on the reply of the Government.

J. D. STORY,
Chairman of Select Committee.

APPENDICES.

Appendix I.

The Report, Sec. 31.

Accommodation which would be Required for, and the Expenditure which would be Involved in Connection with, Administration (Including Executive Staff, Students' Common Rooms, and General University Expenses) in Ten Years' Time, in the Ordinary Course of University Development.

Executive and Clerical Staff.

1. Subject to any modification which might be found possible in the event of a separate Staff being provided for Library purposes (*see* particulars in Appendix II.), it is estimated that in the ordinary course of development during the next ten years, the Executive and Clerical Staff (and the salaries required therefor) would have to be increased as shown hereunder—

PRESENT STAFF.

Position.	Salary for 1920.
	£
Registrar and Librarian	550
Chief Clerk and Accountant	390
Senior Clerk	220
Clerk	135
Steno-typiste	160
Steno-typiste (for Departments)	110
Telephone Attendant	70
Janitor	150
Library Assistant	135
Total	£1,920

PROBABLE STAFF REQUIRED IN 1930.

Position.	Probable Salary.
	£
Registrar and Librarian	600
Chief Clerk and Accountant	450
Senior Clerk	320
Examinations Clerk	300
Clerk	200
Junior Clerk (say)	156
Steno-typists for Office (2)	350
Steno-typiste (Arts Department)	175
Steno-typiste (Science and Agriculture) ..	175
Steno-typiste (Engineering)	175
Steno-typiste (Medicine and Dentistry) ..	175
Telephone Attendant	175
Janitor and Storeman	200
Messenger	180
Night Watchman	200
Total	£3,831

ACCOMMODATION.

2. In order to afford reasonably satisfactory accommodation for administrative purposes (including a suitable hall for examinations, ceremonials, and the like), it would be desirable to provide a separate building, containing—

Room.	Dimensions.	Area in Square Feet.
Registrar (private room) ..	14 ft. x 16 ft.	224
Registrar (Committee room, adjoining private office)	16 ft. x 14 ft.	224
Chief Clerk and Accountant	18 ft. x 16 ft.	288
Strong Room, adjoining ..	8 ft. x 8 ft.	64
Examinations Clerk ..	18 ft. x 16 ft.	288
Senior Clerk, Clerks, Typists, and general office accommodation	..	1,000
Entrance Hall, including inquiry office and waiting room (say)	30 ft. x 20 ft.	600
Senate room	30 ft. x 20 ft.	600
Record Room (for old records, &c.)	20 ft. x 20 ft.	400
Examination Hall (to be used as Main University Hall) approximate	60 ft. x 166 ft.	10,000
Add 6 per cent. for passages, lavatories, &c. (say)	..	812
Total floor space ..	..	14,500

3. In addition to the above, it would probably be necessary to provide cottages for the Janitor and for a Gatekeeper or Night-watchman; each cottage to contain (say) 1,000 square feet.

COMMON ROOMS AND REFECTORIES.

4. To meet the requirements of the Staff and the students in these respects, there should be provided—

(*a*) A Staff Common Room (*see* provision suggested in building for Faculty of Arts—Appendix III.)	
(*b*) A refectory for the Staff 30′ × 30′	900 square feet
(*c*) A Common Room for Men Students, 60′ × 30′	1,800 square feet
(*d*) A Common Room for Women Students, 50′ × 30′	1,500 square feet
(*e*) A Refectory for the Students, 50′ × 30′	1,500 square feet
(*f*) Add 6 per cent. for passages, &c. (say)	350 square feet
Total	6,050 square feet

COST OF REMOVAL AND NEW FITTINGS, ETC.

5. The cost of removal of the present office furniture, fittings, and records to a new site would probably amount to £20. The cost of new furniture and fittings which would be needed, together with the installation of interphones and other modern office appliances, would possibly reach £200.

GENERAL UNIVERSITY EXPENSES.

6. The annual outlay for General University Expenses ten years hence (based on present rates) would be somewhat as follows:—

	£
Lighting, per annum	200
Postage and Petty Cash, per annum ..	200
Rates and Insurance, per annum	350
Cleaning, Administration, Arts, Science and Engineering Buildings	850
Printing, Stationery, &c., per annum ..	500
Degree Examinations (over and above revenue derived from examination fees)	300
Gas for Laboratories and Electric Current, per annum	300
Maintenance of Grounds	750
Miscellaneous and Unforeseen Expenditure	550
Total	£4,000

Appendix II.

The Report, Sec. 37.

Report of the Board of Faculties on the Accomodation, Staff, Cost of Removal, and Annual Maintenance which would be Required to place the Library on an Adequate Footing to Enable it to Fulfil its True Functions in the University.

Management.

1. The Main Library should be the General Library for all the Departments of the University, as far as practicable.

2. Approval should be given to the general principle of Departmental Libraries for the several Departments in the Faculties of Science and Engineering as at present; but these Libraries should contain only those books in which the individual Departments are in the first place intimately interested.

3. Small Departmental Libraries should be established in the Faculty of Arts, to contain merely reference books for students, and especially Honours students. These small Libraries should be housed in separate Reading Rooms for each Department.

4. The control of the Departmental Libraries should be vested in the Heads of the Departments concerned.

Accommodation.

5. In the General Library, accommodation should be provided for 100,000 volumes. This would necessitate 16,000 lineal feet of shelf space. Both Library rooms and shelves should be indestructible by fire. Reading tables should be provided between the shelves, which, generally speaking, should be set at right angles to

the outside walls. The reading tables should be inclined tables 3 feet 6 inches wide, and the spaces between the shelves should be at least 14 feet.

6. A separate building should be provided, in a central position, for General Library purposes, and should contain the following accommodation:—

(*a*) Ground floor	7,200 square feet
(*b*) First floor	5,940 square feet
(*c*) Gallery	4,680 square feet
Total	17,820 square feet

7. The above space should be allocated somewhere as follows:—

(*a*) Room for Librarian, 20′ × 13′	260 square feet
(*b*) Room for Assistant Librarian, 20′ × 12′	240 square feet
(*c*) Attendant's Room, 15′ × 10′ ..	150 square feet
(*d*) Magazine Room, 20′ × 25′ ..	500 square feet
(*e*) Document Room, 20′ × 12′ ..	240 square feet
(*f*) Index and Catalogue Room, 20′ × 25′	500 square feet
(*g*) Room for Recording and Despatching, 20′ × 13′	260 square feet
(*h*) Library proper (to accommodate 100,000 volumes), including passages, stairways, &c. ..	15,542 square feet
(*i*) Lavatories (2) each 8′ × 8′ ..	128 square feet
	17,820 square feet

Cost of Removal.

8. It is estimated that the cost of removing the Library to new premises within reasonable distance of the present site would be about £100.

ANNUAL MAINTENANCE (INCLUDING STAFF REQUIRED.)

9. To enable the Library to be effectively administered, and to fulfil its place not only within the University but also in the relations which it should establish with public institutions outside the University, it would be necessary to provide for—

	£	
(*a*) *Staff*—		
Librarian (salary per annum)	600	
Assistant Librarian (salary per annum)	300-400	
Two Typists (salary per annum, £175 each) ..	350	
		£1,250-£1,350
(*b*) *Maintenance*—		
New Books and Periodicals required annually for:		
(i.) The Faculties of Arts, Science, and Engineering	1,000	
(ii.) A Faculty of Law, if established	250	
(iii.) A Faculty or Department of Commerce, if established	50	
(iv.) A Faculty or Department of Agriculture, if established	50	
(v.) A Faculty of Medicine (including Dentistry), if established	150	
		£1,500
(*c*) *Cleaning, &c.*	100	100
		£2,850-£2,950

Appendix III.

The Report, Sec. 35.

Report of the Board of Faculties on the Accommodation, Cost of Removal, and Annual Maintenance, which should be Provided to Meet in Ten Years' Time, in the Narmal Course of Development, the Requirements of the Faculty of Arts (Including Departments of Education and Correspondence Study).

ACCOMMODATION.

1. In connection with any scheme for the accommodation of the University on a permanent site, provision should be made for a separate building for the several Departments of the Faculty of Arts (including Departments of Education and Correspondence Study). Provision might also be made in this building for Faculties or Departments of Commerce and Law, which must ultimately be established.

2. The accommodation which such a building should afford is shown in detail in the Schedule attached, from which it will be seen that the total floor space needed for the above purposes would be 30,000 square feet.

3. The rooms indicated in the Schedule may be on any floor, provided they are made soundproof. The general distribution of rooms into groups cannot be dealt with at this stage, but should be very carefully considered and reported upon before any definite plans are prepared.

4. In the case of Lecture Rooms, the accommodation is estimated on the assumption that the volume of the space for each student should be about 180 cubic feet.

5. The artificial lighting should be of the diffused reflector type.

Cost of Removal.

6. The cost of removal to a new site of the present furniture and fittings of the Faculty of Arts would be small; possibly it would not exceed £100.

New Equipment, Furniture, and Fittings.

7. The expenditure which would probably have to be incurred on account of new equipment, furniture, and fittings for existing Departments is estimated as follows:—

	£
(*a*) Lantern slides, maps, plans, apparatus, illustrations, specimens, &c.	1,000
(*b*) Additional fittings and furnishings ..	2,000
Total	3,000

Annual Maintenance.

8. The annual maintenance of the Faculty of Arts will represent—

(*a*) Salaries of Staff; and

(*b*) Library Expenditure.

It is presumed that anything in the nature of equipment will be provided from time to time, as occasion arises, out of special funds voted for the purposes.

9. In regard to expenditure on account of Salaries of the Staffs of the existing Departments, when the present graduated schemes of increments mature, and when additional appointments have been made to cope with increased attendances, it is estimated that a further expenditure of about 35 per cent. on the present commitments will be involved.

10. Due provision for Library expenditure for this Faculty has been made in the particulars appearing in section 9 (*b*) of Appendix II.

DEPARTMENT OF EDUCATION.

11. To begin with, Education should form a Department within the Faculty of Arts. As this Department would be very largely occupied in training teachers for the Department of Public Instruction, the Department of Public Instruction might reasonably be expected to contribute to the University a large proportion of the cost of the University Department.

12. Any scheme of work in Education involves the co-operation of the Department of Public Instruction to enable the necessary practical training to be given to students.

13. The minimum staff required for a Department of Education and the maximum salaries which would be payable under the present schemes of graduated increments, would be as follows:—

	£
(*a*) Head of Department (rank of Professor	900
(*b*) Lecturer in Method for Humane Studies	550
(*c*) Lecturer in Method—Mathematical and Scientific Studies	550
(*d*) Part-time Lecturer—School Hygiene and School Management	160
Total	£2,100

As the Department developed, additional staff would be needed. This might possibly involve an increase of 35 per cent. in the cost of the Department in ten years' time.

14. In the matter of accommodation, library, equipment, furniture, and fittings needed for this Department, due allowance has been made in the estimates under those respective headings:—

SCHEDULE SHOWING IN DETAIL THE ACCOMMODATION TO BE PROVIDED IN ARTS BUILDING.

Particulars.	Dimensions.	Area in square feet.
Private Offices—		
Classics—		
One room (Professor) ..	18 ft. x 16 ft.	288
One room (Lecturer) ..	16 ft. x 14 ft.	224
Mathematics—		
One room (Professor) ..	18 ft. x 16 ft.	288
One room (Lecturer) ..	16 ft. x 14 ft.	224
Modern Languages—		
One room (Professor) ..	18 ft. x 16 ft.	288
Two rooms (Lecturers)	16 ft. x 14 ft.	448
History and Economic Science		
One room (Professor) ..	18 ft. x 16 ft.	288
Two rooms (Lecturers)	16 ft. x 14 ft.	448
Philosophy—		
One room (Professor) ..	18 ft. x 16 ft.	288
One room (Lecturer) ..	16 ft. x 14 ft.	224
Additional room to meet normal development in Lecturing Staff, four rooms	16 ft. x 14 ft.	896
Office room for Junior and Part-Time Lecturers, one room	20 ft. x 20 ft.	400
Correspondence Study—		
One room (Director) ..	18 ft. x 16 ft.	288
One room (Assistant) ..	16 ft. x 14 ft.	224
One room (Typistes) ..	20 ft. x 20 ft.	400
Rooms for Special Work—		
In connection with each of the above Teaching Departments there should be provided a room, say 20 ft. x 20 ft., for special work (*e.g.*, Honours, Senior, and Research Students), five rooms	20 ft. x 20 ft.	2,000

Particulars.	Dimensions.	Area in square feet.
Lavatories, &c.—		
Two Lavatories, Bath-room, Water Closets, &c. ..	..	300
		7,516
Lecture Theatres—		
These would meet the requirements of the Faculties of Law and Commerce also (*see* Appendices X. and XI. attached)—		
Two, to hold 250 each	..	5,500
Four, to hold 100 each	..	5,000
Lecture Rooms (Flat)—		
Two, to hold 50 each ..	..	1,500
General Rooms—		
General Staff (Common room)	30 ft. x 30 ft.	900
Hall, to hold 600 persons (to be available also for examination purposes)	36 ft. x 90 ft.	3,240

FOR NEW DEPARTMENTS.

Education—		
Room for Head of Departments	18 ft. x 16 ft.	288
Room for Lecturer in Method for Humane Studies	16 ft. x 14 ft.	224
Room for Lecturer in Method for Mathematical and Scientific Studies ..	16 ft. x 14 ft.	224
Lecture room, to seat (say) 50 students	30 ft. x 20 ft.	600
Law (*see* Section 3 of Appendix XI.)—		
Room for Professor ..	18 ft. x 16 ft.	288
Room for Part-Time Lecturers	18 ft. x 16 ft.	288

Particulars.	Dimensions.	Area in square feet.
Room for Permanent Lecturer	16 ft. x 14 ft.	224
Room for Special Work (Honours and Senior Students)	20 ft. x 20 ft.	400
Room for Departmental Library	20 ft. x 20 ft.	400
Commerce (*see* Section 10 of Appendix X.)—		
Three Lecturers' rooms, each	16 ft. x 14 ft.	672
Room for Departmental Library	20 ft. x 20 ft.	400
PASSAGES, &C.		
Floor space needed for Passages, &c. (Approximate 6 ft.) say	..	2,336
Total floor space needed..	..	30,000

Appendix IV.

The Report, Sec. 35. *Report of the Board of Faculties on the Requirements of the Department of Biology.*

It is assumed:—

(*a*) That by 1920 there will be in the Science Faculty—

First year	..	45 students;
Second year	..	30 students;
Third year	..	25 students;

(*b*) That a Medical School will be established, and that the number of students in the first year will be 40 to begin with; ultimately reaching 90.

(*c*) That an Agricultural (including Veterinary) Department will be established, and that the Course for Agriculture as set down herein will be adopted, and that the numbers of students may be estimated at a maximum of 12 in the first year, 10 in the second year, and 8 in the third year:

The number of first-year students estimated to be in attendance in 1930 is based on the assumption that in addition to about two-thirds of the Science students in the first year and about one-half in the second and third years, there would be added (*a*) the first year Medical and Agricultural students during the first year; (*b*) all the Agricultural students for the second year, and probably also for the third year.

Students—

Year of Course.	1920.	1930. (With extra Faculties or Departments, Medicine and Agriculture.)	1930. (Without additional Faculties or Departments.)
First year ..	34	80, ranging to 140 in later years	40–50
Second year ..	2	25	20
Third year ..	5	12	15

Accommodation which would be needed for the full number of students just quoted—

Lecture rooms—

Junior .. 1,680 sq. ft., say about 35 ft. x 50 ft.
Senior .. .. 400 sq. ft., say 20 ft. x 20 ft.

Laboratory—

Junior .. 2,400 sq. ft., say about 35 ft. x 70 ft.
Senior 1,400 to 1,050 sq. ft., say 35 ft. x 40 ft. *or* 35 ft. x 30 ft.

Laboratory—

Small one for Agricultural side of Biology, Entomology, Parasitology, and Plant Pathology } 300 sq. ft., say 20 ft. x 15 ft.

Research rooms (2) each 180 sq. ft., say 12 ft. x 15 ft.
Preparation room .. 300 sq. ft., say 20 ft. x 15 ft.
Workshop .. .. 300 sq. ft., say 20 ft. x 15 ft.
Darkroom .. .. 100 sq. ft., say 12 ft. x 8 ft.
Museum .. .. 2,100 sq. ft., say 35 ft. x 60 ft.
(1,400 if galleries around walls) say 35ft. x 40 ft.
Library .. .. 600 sq. ft., say 30 ft. x 20 ft.
Storerooms (apparatus and camp gear) .. 300 sq. ft., say 20 ft. x 15 ft.
Storeroom (specimens) 300 sq. ft., say 20 ft. x 15 ft.
Lavatory .. .. 80 sq. ft., say 10 ft. x 8 ft.
Professors' office .. 180 sq. ft., say 12 ft. x 15 ft.

Professors' laboratory 300 sq. ft., say 20 ft. x 15 ft.

Lecturers' room and laboratory .. 300 sq. ft., say 20 ft. x 15 ft.

Lecturers' room and laboratory .. .. 300 sq. ft., say 20 ft. x 15 ft.

Total approximate, 11,000 sq. ft.

Add 6 per cent. for passages, conveniences, &c., 660 sq. ft.

Total, 11,660 sq. ft.

The present quarters occupy 100 ft. x 60 ft. = 6,000 sq. ft. They comprise only one small lecture-room and a very small junior laboratory at present.

Staff.	1920.	1930. (Without extra Depts. or Faculties.)	1930. (With Medical and Agric. Schools.)
Professor	900	900	900
Lecturer in Biology ..	550	550	550
Lecturer in Botany ..	..	..	550
Student Demonstrators at £80 per annum ..	50	100	200 (4 to begin with)
Laboratory Assistant ..	250	250	250
Laboratory Boy ..	..	60	60
Maintenance	100	125	150
	1,850	1,985	2,660
Percentage increase on present scheme ..	..	7·8 per cent.	43·8 per cent.

Library—	£ 1920.	£ 1930.
Lighting and cleaning ..	22	say 50 per annum
Cost of removal and refitting benches, cupboards, equipment ..		200 suggested

Equipment—

	£	£
(*a*) Extra microscopes—		
For first year students, 70 at £15 =	1,050	
For second and third year students, 15 at £20 .. =	300	1,350
(*b*) Material for Museum (skeletons, &c.), say		200
(*c*) Botanical material, say		100
(*d*) Museum cases		250
(*e*) Entomological and Parasitological material and cabinets		100
(*f*) Additional general equipment (glassware and class apparatus)		100
		£2,100

Most of these items, *e.g.*, (*a*), part (*b*), and (*c*), part (*d*), (*e*), and part (*f*) would be needed as a result of the creation of Faculties of Medicine and Agriculture.

Extra furnishings, benches, &c., tables, chairs, say £1,200.

Appendix V.

Report of the Board of Faculties on the Requirements of the Department of Chemistry.

The following is based on the estimate, made after discussion of the probable number of students attending the University in ten years from this date.

It was considered probable that students in Faculties involving the teaching of Chemistry would number about 550, distributed as follows:—

Faculty.	1st Year.	2nd Year.	3rd Year.	4th Year.	5th Year.	Total.
Arts	10	..	..	..	..	10
Science	45	30	25	8	..	108
Engineering	35	30	20	15	..	100
Medicine (including Dentistry) ..	90	60	50	50	50	300
Commerce	..	..	..	..	..	..
Law	..	..	..	..	..	..
Agriculture	12	10	8	..	..	30

On the basis of these figures the following estimate of the students in the Department of Chemistry is made:—

Year.	Arts.	Science.	Engineering.	Medicine.	Agriculture.	Total.
First	4	45	35	90	12	186
Second	..	20	30	..	10	60
Third	..	16	20	..	..	36
Fourth	..	8	..	..	..	8
Total	4	89	85	90	22	290

Should no extra Faculties be established within the period in question, it is reasonable to suppose that the existing Faculties of Science and Engineering would be much larger than is indicated in the foregoing figures.

The following tentative estimate is submitted:—

Faculty.	1st Year.	2nd Year.	3rd Year.	4th Year.	Total.
Arts	15	..	..	..	15
Science	70	45	35	10	160
Engineering	55	45	30	20	150

In this case a conservative estimate of the students in the Department of Chemistry would be as follows:—

1st year	Science	70	Engineering	55	Arts 5	130	
2nd year	Science	30	Engineering	45	..	75	
3rd year	Science	24	Engineering	30	..	54	
4th year	Applied Science	10	..		..	10	
					Total	269	(say 270).

It will be noted that the totals on these two estimates are similar, but the numbers are distributed differently in the two cases. In what follows, estimates have been based on the figures for the case that extra Faculties are established.

The expansion that would be necessary to cope with conditions such as these estimated, is considered under the headings Maintenance, Accommodation, Equipment, and Cost of Removal.

(1) Maintenance.

(*a*) *Increase in Staff.*—The permanent staff would not need to be increased. It would be necessary, however, in course of time to raise the position at present occupied by Mr. Jones to the same level as that of the other Lecturers in the University. It would also probably be necessary to raise the salaries of the Junior Demonstrators from £200 to £250.

Expansion in size of the First Year Laboratory Class would be dealt with by the appointment of Student Demonstrators, at the rate of one to every twenty students.

(*b*) *Staff of Attendants.*—With classes of the present size, it is becoming apparent that the task of looking after students' and other apparatus is getting beyond the existing staff. With any further increase in the size of classes, it will become necessary to appoint an attendant whose main duty it would be to do this.

(*c*) *Apparatus and Chemicals.*—It is estimated that the average annual cost to the Department for apparatus and chemicals, at present prices, is about £2 per student. A portion of this is refunded to the University, but it is not paid to the credit of the Department. On this basis, and allowing a small amount for extra incidentals, it would be necessary to increase the Maintenance Allowance by £250.

By abandoning the present system of providing students with apparatus, in favour of making them purchase their own outside the University, economy would be effected within the Department, which might ultimately amount to £500 per annum.

The increase indicated above amounts to—

	£
Increase of maximum salary from £400 to £550	150
Possible increase of salary of Junior Demonstrator, £200-£250 ..	50
Eight Student Demonstrators at £30	240
Extra Attendant, maximum £250..	250
Extra maintenance	250
	£940

Of this, the following are charges against the Faculty of Medicine:—

	£	
Three Student Demonstrators, at £30 ..	90	
Apparatus, &c., for 60 students, at 35s. ..	105	
	Deduct this sum,	£195
	Nett increase,	£745

This amounts to about 22 per cent. of the present commitments.

Should a Faculty of Agriculture be established, it will be necessary to appoint an additional Lecturer in Agricultural and Plant Chemistry—£550.

(2) Accommodation.

The sizes of the various class rooms are based

Room.	No. of Students.	Area— In sq. feet.	Present Area— In sq. feet.	Increase— In sq. feet.
Junior lecture room	200	2,400	1,080	1,320
Second year lecture room	60	720	350	370
Third and fourth year lecture room	25	300	..	300
Junior laboratory	100	2,400	1,250	1,150
Second year laboratory	60	2,580	1,060	1,520
Third year laboratory	20	1,000	..	1,000
Physics—Chemical laboratory	12	600	360	240
Optical and dark room	6	380	250	130
Balance room, Junior	..	350	..	350
Balance room, 2nd year	..	532	250	282
Balance room, 3rd year	..	190	..	190
Workshop	..	396	396	..
Preparation room—Lecture	..	325	325	..
Preparation room—Senior Laboratory	..	325	..	325
Preparation room—Junior (under lecture threatre)	..	..	..	..
Library	..	450	270	180
Store room	..	850	342	508
Professors' room	..	180	..	180
Professors' laboratory (two benches)	..	360	400 (−40)	..
Lecturers' laboratory (one bench)	..	280	360 (−80)	..
Lecturers' laboratory (one bench)	..	280	..	280
Lecturers' laboratory (Agricultural Chemistry)	..	280	..	280
Research laboratory	..	540	..	540
Organic laboratory	..	..	400 (−400)	
			(−520)	9,145
				520
	..	15,718	7,093	8,625
Add 5 per cent. for passages, &c.	..	800	350	450
Totals	..	16,518 (say 16,500)	7,443	9,075

on the following figures, which are the results of experience here and elsewhere:—

For lecture rooms we require 12 square feet per student.

For Junior laboratory we require 24 square feet per student.

For Second year laboratory we require 43 square feet per student.

For Third year laboratory we require 50 square feet per student.

(*a*) *Pure Chemistry* (*See* page 314).

(*b*) *Applied Laboratory.*—The Board of Faculties has assumed the necessity for a 50 per cent. larger laboratory, or a total floor space of 4,200 square feet.

Totals required are therefore, say	16,500	
	4,200	
	20,700	square feet.

(3) EQUIPMENT.

Further equipment necessitated by greatly enlarged classes may be grouped under the following headings:—

(*a*) Purchase of—

29 balances for Senior use.
42 sets of weights for Senior use.
15 balances for Junior use.
15 sets of weights for Junior use.

(*b*) Further equipment for common use, such as furnaces, ovens, water baths, and general hardware.

(*c*) Extra equipment for individual use.

(*d*) Extra Physico-Chemical equipment.

(*e*) Further outlay on chemicals.

The approximate estimate for this is the sum of £2,000.

(4) Cost of Removal and New Fittings.

The cost of removal will be moderately heavy, as it will involve the reconstruction of a large amount of the existing plumbing works.

It should be pointed out, however, that the fittings in the present building are the property of the University, and should be removed to the new building.

The new building should be so designed as to facilitate the utilisation of all existing fittings.

The cost of new fittings is very difficult to estimate; it might amount to between two and three thousand pounds.

An approximate estimate is £300 for removal and £2,700 for new fittings.

Summary.

(1) Additional annual expenditure, as follows:—

	£
If no new Faculties ..	745
If Medical Faculty established	940
If Medical and Agricultural Faculties established ..	1,490

(2) Additional accommodation required as follows:—

For Pure Chemistry	9,100	square feet.
For Applied Chemistry ..	1,400	square feet.
Total accommodation required is—		
For Pure Chemistry	16,500	square feet.
For Applied Chemistry ..	4,200	square feet.
Total ..	20,700	square feet.

(3) Additional equipment, estimated total £2,000

(4) The cost of removal is extremely difficult to estimate. It might amount to .. £3,000

Appendix VI.

The Report Sec. 35.

Report of the Board of Faculties on the Requirements of the Department of Geology and Mineralogy.

The following is based on the assumption that in ten years' time the number of students in this Department will have increased as follows:—

At present.	1920.	1930.
First year	43 ..	80
Second year	10 ..	25
Third year	3 ..	12

This estimate was arrived at after consultation with the Heads of the Departments in the Faculty of Science. It should be noted that the establishment of a Faculty of Medicine makes no increase on the number of students here, but, on the other hand, it would make a decrease, and this has been allowed for.

ACCOMMODATION REQUIRED.

	Approx. dimensions.	Floor space. Sq. ft.
Lecture room—		
Junior	35′ × 32′ ..	1,120
Senior	20′ × 20′ ..	400
Laboratories—		
Junior	35′ × 55′ ..	1,925
Senior	35′ × 40′ ..	1,400
Research rooms, two each ..	12′ × 15′ ..	360
Preparation room	20′ × 15′ ..	300
Dark room	12′ × 8′ ..	96
Museum—		
Without galleries ..	35′ × 60′	
With galleries	35′ × 45′ ..	2,100
Workshop	20′ × 20′ ..	400
Library	20′ × 20′ ..	400
Storeroom	20′ × 20′ ..	400
Lavatory accommodation ..	10′ × 8′ ..	80
Professor's room	20′ × 20′ ..	400
Lecturer's room (two each)	15′ × 18′ ..	540
		9,921
Passages, staircases, &c., 6 per cent.	.. ..	600
Total	.. ..	10,521

Equipment.

(*a*) Material (apparatus, specimens, &c.)—

	£
1st year	50
2nd year	50
3rd year	50
Research	50
Museum	150
Economic material	70
Microscopes, 24 at £20 ..	480
	£900

Fittings.

Total additional floor space over present, about 3,500 square feet.

In 1912, University Chemistry building furnished 7,500 square feet for £2,000. While most of the furnishing here is not so expensive, on the other hand the Museum furnishing is more expensive than the Chemistry furnishing. Taking into account the increased cost of manufacture, &c., a rough estimate is made of £1,500.

Total for equipment £900 + £1,500 = £2,400.

Salaries and Maintenance.

An increase of about 31 per cent. in salaries and maintenance above present cost will be required in 1930, in accordance with the following:—

	At present. £	1930. £
Professor	900	900
Lecturer, Geology and Palæontology	550	550
Lecturer in Economic Geology ..	—	550
Special Lecturer in Geology ..	50	—

	At present.		1930.
Laboratory Assistant	250		250
Boy	60		60
Demonstrators, 1 at	50	4 at £30	120*
	£1,860		£2,430
Maintenance	100		150
	£1,960		£2,580

Increase in percentage by 1930—31 per cent.
Cost of removal apart from plumbing—£150.

* One Demonstrator conditional on the establishment of a Faculty of Agriculture.

Note.—No estimates of cleaning and lighting have been made, as these are at present and in future will probably be a general charge.

SUMMARY.

Accommodation required	10,500 square feet.
Equipment required, material	£900
Equipment required, extra furnishing ..	£1,500
Increase in salaries and maintenance	31 per cent.
Cost of Removal ..	£150

Appendix VII.

Report of the Board of Faculties on the Requirements of the Department of Physics. The Report, Sec. 35.

The estimates of accommodation, equipment, furnishing, &c., for the next ten years are based on the numbers of students given below.

The addition of new Faculties is assumed in estimating the number of students.

As far as accommodation is concerned, the new Faculties would only affect the size of the Junior lecture room.

STUDENTS.

	At Present.	Estimate in 10 Years' Time with New Faculties.
1st Year Science	48 ..	45
1st Year Engineering ..	18 ..	35
1st Year Medicine	.. ..	90
1st Year Miscellaneous ..	.. ..	10
Total	66 ..	180
2nd Year Science	9 ..	15
2nd Year Engineering ..	13 ..	30
Total	22 ..	45
3rd Year Science	4 ..	12

Without new Faculties of Medicine and Agriculture, the number of first year students would be somewhat reduced, and the number of second year students increased.

Accommodation.

	Students.	Floor space in sq. ft.
Junior lecture room	180 ..	2,200
Senior lecture room	50 ..	600
Preparation room	— ..	600
Store room (materials and apparatus)	— ..	600
First year laboratory ..	90 ..	2,900
First year Optical, six compartments, each, say, about 12 × 7	— ..	500
Second year laboratory ..	45 ..	2,500
Second year Optical, three compartments, each, say, about 12 × 7	— ..	250
Third year laboratory ..	10 ..	500
Research room	.. ..	200
Research room	.. ..	200
Optical room	.. ..	300
Dark room	.. ..	100
Instrument room	.. ..	600
Library	.. ..	400
Professor's office	.. ..	180
Professor's laboratory	..	300
Lecturer's room and laboratory	..	300
Lecturer's room and laboratory	..	300
Demonstrator's room	..	120
Workshop—		
Machines shop	..	800
Instrument shop	..	300
Store for timber, metals, &c. ..	..	150
Battery room	.. ..	250
Sanitary offices	.. ..	—
	Approximately	15,000
Passages, &c., 6 per cent.	.. ..	900
		15,900

Notes.

Lecture Rooms to be galleries and fitted with lecture bench, screens, &c.; windows at side. Lofty rooms with no floor above.

2nd and 3rd Year Laboratories.—On ground floor, with concrete or other antivibration floor.

Workshop and battery room may be in basement.

Store.—Narrow room or cupboard adjacent to workshop for storing of timber and other workshop material.

Equipment.—To meet the needs of the increased number of students, the following extra equipment would be required:—

	£
First year	460
Second year	420
Third year	320
General, including battery	400
	£1,600

Furnishings and Fittings.

Such of the fittings in the present building as are removable would be transferred to the new building. Where the cost of removal would be excessive—*e.g.*, built in slats, slabs, wiring built in switchboards, &c.—it would be more economical to hand over such fittings to the Technical College and credit the University with its value.

	£
Estimated Cost of Fittings and Furnishings in new building, including wiring, switchboards, &c.	4,000
Estimated Cost of Removal, including breakages	300

Increase of Staff and Maintenance.

The present staff is estimated on the basis of maximum salaries, and the Assistant Lecturer and Demonstrator and Laboratory Attendant

sanctioned by the Senate for this year only are shown here as permanent members of the staff.

Present Staff.

	£
Professor	900
Lecturer	550
Assistant Lecturer and Demonstrator ..	400
Student demonstrator	25
Mechanic	260
Laboratory attendant	220
Boy	75
Maintenance	170
	£2,600

Future Requirements.

	£
Professor	900
Lecturer	550
Lecturer	550
Four student demonstrators	200
Mechanic	260
Attendant	250
Three apprentices	200
Maintenance	250
	£3,160

Increase, £560.
Increase due to Medical School—

	£	
Extra demonstration	190	
Extra maintenance and boy ..	110	
		£300

Appendix VIII.

Report of the Board of Faculties on the Requirements of the Department of Engineering. The Report, Sec. 6.

PROBABLE NUMBER OF STUDENTS.

1. In the first two years, students in Applied Science, Surveying, Forestry, Agriculture, and Architecture, as well as the Engineering students themselves, will attend instruction in the Engineering Department. By the end of the period under review the following annual enrolments might be reasonably expected:—

Year of Course.	Present Enrolments.	Probable Enrolments, 1930.
First year	22	35
Second year	18	30
Third year	12	20
Fourth year	2	15
Total	54	100

ACCOMMODATION.

2. To admit of the work of this Department being carried out with a maximum of efficiency, the following accommodation should be provided:—

Particulars.	Present (Square feet).	Required for enrolment shown under (1) above. (Square feet.)
Lecture rooms— One at 1,200 ft. Two at 720 ft. ..	2,600	2,600
Library, reading room, catalogue room	660	1,000
Drawing offices— One at 4,000 One at 1,000	4,600*	5,000
Instrument rooms and Applied Mechanics laboratory (former partitioned off)	2,000	2,000

* Only about 60 per cent. available to University.

Particulars.	Present (Square feet.)	Required for enrolment shown under (1) above. (Square feet.)
Heat Engines laboratory, 2,900—4,000 Boiler house 1,200—1,200 Producer house 200—400 Hydraulics Cement and Materials Testing laboratories 1,500—2,400	5,800	8,000
Electrical laboratory	1,500	2,000
Workshop	120	1,000
Museum and materials storage ..	..	1,000
Private rooms and offices— Two at 260 Three at 160	600	1,000
Printing room, dark room, lavatories, &c.	1,000	1,000
Add 6 per cent. for stairs, passages, &c.	(say)	24,600 1,500
Total floor space	..	26,100

EQUIPMENT.

3. The following additional equipment is urgently needed, even on the present site:—

	£	£
(*a*) Electrical laboratory—		
Motor generator	300	
H. T. transformers	200	
L. T. transformer	300	
Two cells	60	
Potential transformer	100	
Oil switches, H. T.	20	
	——	980
(*b*) Workshop: Machine tools—		
Lathe	450	
Shaping machine	300	
Milling machine	250	
Radial drilling machine	300	
	——	1,300
(*c*) Other general equipment		1,720
Total		£4,000

Furnishings, Cost of Removal and Replacements.

4. To remove to a new site, the boilers which have been installed in the present laboratories, would cost about £6,000. It is doubtful whether, in ten years' time, they would be worth the cost of removal.

5. The other equipment consists of—

(*a*) Engines and machinery on specially prepared concrete foundations.

(*b*) Complicated pipe systems (probably these could not be dismantled and reinstalled economically in new laboratories).

The cost of removal of the whole of the equipment, including the boilers referred to in (*a*), would probably reach £13,000.

Staff.

6. In addition to the work done by the permanent staff of the Department, it is desirable that special short courses should be provided, to be taken by experts. These courses, and the part-time salary allowance to be granted in each case, would be as follows:—

	£
(*a*) Building Construction and History of Architecture (30 lectures), alternate years	75
(*b*) Railway Engineering (30 lectures) ..	75
(*c*) Sewerage and Water Supply (20 lectures)	50
(*d*) Irrigation and Hydraulic Engineering (20 lectures)	50
(*e*) Road Location and Construction (10 lectures)	25
(*f*) Harbours, Rivers, and Docks (10 lectures)	25
(*g*) Reinforced Concrete (10 lectures) ..	25
(*h*) Town Planning (6 lectures)	15
(*i*) Agricultural Engineering (10 lectures)..	25
	£365

7. To make satisfactory provision for the University work in Engineering, the following staff should be available:—

Position.	Present maximum salary.	To reach during ensuing decade.
	£	£
Professor	900	.. 900
Lecturer in Mechanical and Electrical Engineering (to develop into Associate Professorship)	550	.. 750
Lecturer (to replace one of the present positions of Senior Demonstrator and Assistant Lecturer)	400	.. 550
Senior Demonstrator and Assistant Lecturer ..	400	.. 450
Demonstrator	—	.. 400
Part-time Lecturer in Surveying	230	.. 235
Special Part-time Lecturers (*see* paragraph 3) ..	—	.. 365
Laboratory Superintendent (Mechanic at present paid by Central Technical College)	—	.. 300
Mechanic (£350); two Laboratory Attendants, (£400); Boy (£50)	710	.. 800
Maintenance Expenses ..	330	.. 450
Total	£3,520	£5,200

8. The additional expenditure required to meet the normal development of this Department during the ensuing decade would therefore represent an increase of approximately 48 per cent.

MAINTENANCE OF LIBRARY.

This item has been taken into account in connection with the particulars appearing in Appendix II., Section 9.

Appendix IX.

The Report, Sec. 38. *Report of the Board of Faculties on the Requirements of a Faculty of Agriculture in the University.*

The Board has considered the files of papers submitted to it by the Office, and has endeavoured to ascertain—

(1) Whether there exists a public *need* for the establishment of a University Department of Agriculture.

(2) Whether there exists a public *demand* for such a Department.

(1) Public Need.

This question has been fully dealt with by the Senate Select Committee under the Chairmanship of Mr. J. D. Story, and from that report the following information has been taken:—

Queensland is essentially a primary-producing State whose future is largely dependent on adequate and efficient developments of its primary industries, whether mining or agriculture and animal husbandry. Secondary industries cannot expect to make much progress unless primary industries flourish. The important place occupied by Agriculture in Australian economics should be more widely recognised. Urban populations are either directly or indirectly largely dependent on primary industries, especially on Agriculture, the term being here used widely to include both the dairying and pastoral industries.

According to the Select Committee's Report, about one-third of the total revenue of Queensland could be directly traced to the primary industries other than mining. If there were taken into account the proportion of the earnings of the Railway Department which should

be credited to these industries; the taxation (income and land) paid by individuals and companies more or less concerned in such industries or in businesses connected therewith; as well as Federal taxation derived from such sources, and part of which taxation is paid over to the State on a *per capita* basis: then it may be safely assumed (*vide* Report, page 3) that half of the revenue of the State is derived directly or indirectly from the primary industries.

There can then be no doubt as to the public need of an extension of Agricultural knowledge. Consequently, a liberal expenditure on Agriculture would be warranted.

(2) Public Demand for Agricultural Education.

The Board has been guided largely by the experience of other Australian Universities where Agriculture forms part of the curriculum—viz., Sydney, Melbourne, Adelaide, and Western Australia.

In spite of the fact that fees are not charged in the Western Australian University, very few students have enrolled since the course was inaugurated.

In Sydney, the state of affairs is much better at present, there being set down in the 1919 Calendar 9 names of first-year students, 5 second year, 5 third, and 2 fourth-year—total, 21. There are only 9 Bachelors of Science in Agriculture listed in that Calendar (p. 556), the dates of graduation ranging from 1914 to 1919. Of these graduates, a large percentage entered the classes as cadets in the service of the New South Wales Department of Agriculture.

In Adelaide during the ten years ended March, 1917, there were only 6 graduates, and there were no students attending the Course on the date mentioned.

In Melbourne, the number of students

attending dropped to such an extent that a sub-committee was appointed to inquire into the cause. Of the 57 students who entered the Agriculture Course in Melbourne during the time between the inauguration of the Course in 1907 and the date of the Report (March, 1917), 20 had graduated as B.Sc. Agri., 1 obtained a Diploma, and 15 others substantially completed the Course. Of the 35 who had more or less completed the Course, only 1 had actually engaged in farming, 19 had become teachers (16 in the Education Department), and 8 had joined the Agricultural Department. Since 1917, the numbers have still further diminished. In the present year there are only 3 in the Faculty—*i.e.*, less than 1 per year of the Course.

Those facts show most definitely that there is no general public demand for Agricultural Teaching at a University standard.

The salaries paid to graduates in Agricultural Science have been so low as to call for special comment elsewhere, and have certainly had a deterrent effect, students naturally comparing and contrasting the earnings obtained by such graduates with those obtained in other professions whose course of University training is of the same duration or, at most, a year longer (Medicine, for example).

Agricultural Education can be imparted in the State School, Agricultural College, and the University. The aim of the two first-named should be to assist the primary production of the State by providing for the education of the farmer.

One function of the University should be to provide the very best training and every facility for the intellectual development of a proportion of the community, assuming that opportunity and encouragement be given to the qualified graduate in Agriculture to employ his knowledge and capabilities in primary production. Experi-

ence has shown that those who propose to engage in primary production are not found amongst the students in the Faculty of Agriculture in any Australian University.

A second object of a Faculty of Agriculture should be the investigation of problems in Agricultural Science. If few or no students came forward, then such Faculty or Department would become, or should become, a research Faculty or Department. This would necessitate large expenditure in order to be really effective; in other words, it should be an Agricultural Research Institute. From the point of view of the University, there would probably be a starvation of other research activities if Agricultural Research were carried on as it deserves. Such expensive Agricultural Research is primarily the function of the State Department of Agriculture through its various laboratories and experimental farms and stations. In the U.S.A., the State Department of Agriculture and the State University Departments of Agriculture are practically identical. In Australia no such relationship exists.

The Board is of opinion that—

(1) There is a real *public need* for a University Department or Faculty of Agriculture, but it is as yet unrealised by the community, hence (2).

(2) There is no *serious public demand* for it.

(3) The research functions of a University Department of Agriculture, in order to be efficiently carried out, would need very heavy expenditure.

(4) Such Agricultural research should, therefore, if undertaken by the University under present circumstances, be a prime charge against a State Department of Agriculture and Stock.

Assuming that a Department of Agriculture be established, the following openings for its graduates might be taken for granted:—

They would be absorbed by—

(1) The Education Department (for Agricultural Schools or for the teaching of Agriculture in other schools).

(2) The State Agricultural Department (*a*) in its laboratories, (*b*) as inspectors and instructors in Agriculture, Stock-breeding, &c., (*c*) as teachers on the staff of Agricultural Colleges and State Farms.

(3) The Forestry Department.

(4) Private employers.

(5) Entry on land as farmers, pastoralists, &c.

The avenues offered by (1), (2), and (3) would soon become exhausted. We have already pointed out that Nos. (4) and (5) appear to be negligible at present.

The demand for the very small number of men required for (1), (2), and (3) could be met by importation from other parts of Australia or elsewhere.

The Melbourne University subcommitteee suggested that the State should guarantee to absorb annually for a certain number of years a definite number of Agricultural graduates.

Agricultural Courses.

The following table shows the Course as laid down in (1) Sydney University (1919 Calendar); (2) the amended Course suggested by the Select Committee of the Melbourne University reporting on Agricultural Education in that University; (3) that suggested by the Faculty of Science in our own University as suitable for a Licentiate in Agriculture.

FIRST YEAR.

(1) Sydney.	(2) Melbourne.	(3) Queensland.
Chemistry I. Botany I. Zoology I. Geology I. Physics I. (part course) } As in Science first year.	Chemistry I. Botany I. Agricultural Zoology I. Physics I.	Chemistry I., to be taken during Gatton Course. Chemistry II., Organic and Physical only. Biology I. Geology I. Agriculture and Live Stock I. Elementary Bacteriology, ten lectures and practical.

SECOND YEAR.

(1) Sydney.	(2) Melbourne.	(3) Queensland.
Organic and Physical Chemistry. Botany II. (Systematic and Physiological) Agricultural Geology Agriculture I., including Soil Physics. Economic Entomology.	Four full days per week Bacteriological and Agricultural work at Werribee State Research Farm. Animal Physiology, Veterinary Science, and Stock Breeding. Dairying.	Agriculture and Live Stock II. Agricultural Biology (one term each Botany and Plant Pathology, Agricultural Zoology and Entomology, Veterinary Parasitology). Agricultural Chemistry. Agricultural Geology, one term. Agricultural Economics, one term. Veterinary Science, one term.

THIRD YEAR.

(1) Sydney.	(2) Melbourne.	—
Agricultural Chemistry. Agricultural Botany. Plant Pathology. Veterinary Hygiene and Dietetics. Stable Management. Veterinary Pathology.	Agricultural Chemistry. Agricultural Botany. Plant Pathology. Agricultural Geology. Entomology. Agriculture.	

FOURTH YEAR.

(1) Sydney.	(2) Melbourne.	—
Agriculture II. Fruit Culture and Viticulture. Agricultural Economics. Forestry. Agricultural Engineering. Veterinary Parasitology. Agricultural Bacteriology.	Agriculture. Agricultural Bio-Chemistry. Agriculture (Principles). Horticulture. Agricultural Engineering. Agricultural Bacteriology.	

The Sydney Course requires not less than twelve months (not necessarily continuous) at an approved Agricultural College or Farm. The Melbourne Course requires a student to attend four days per week during the second year at a State Farm. The Licentiate Scheme (Queensland University) required a year's work at Gatton.

The Board is of opinion that a *Three-year Course* for B.Sc., Agric., is sufficient to cover necessary work at the University, and suggests that the additional practical work be divided up thus:—

1st year—Practical work at the end of the first year during the long vacation (three terms' work at the University).

2nd year—Practical work during one term, and also during long vacation (two terms' work at the University).

3rd year—Practical work during long vacation (three terms' work at the University).

Thus there would be *four periods of practical work aggregating about a year,* and only one term's break in the University work.

The undermentioned Course is suggested. Only the lecture work is set down. There would be laboratory periods in addition.

1st year—

Chemistry—Special Course, including Organic.

Agricultural Chemistry I.

Physics I. Students to be exempt if they have passed Senior Physics—otherwise the Course as in Science I.

Zoology I. } Biology I. for Science
Botany I. } students.
Geology I., as for Science I.
Agricultural Geology.

2nd year—

Agricultural Chemistry, Soil Physics, Plant and Bio-Chemistry, and Soil Analysis.
Agricultural Zoology and Veterinary Parasitology.
Entomology.
Agricultural Botany, including Plant Pathology and Plant-breeding.
Agriculture I.

3rd year—

Agriculture II.
Fruit Culture and Viticulture.
Bacteriology.
Dairying.
Agricultural Engineering.
Veterinary subjects—
Anatomy and Physiology.
Stable Management, Hygiene, and Dietetics.
Animal Husbandry and Stock-breeding.
Pathology.
Agricultural Economics.

It would probably be advisable to take some of the Veterinary subjects (*e.g.*, Anatomy and Physiology) in the second year, and transfer some of the Biological subjects from the second year to the third year (*e.g.*, Plant-breeding and Entomology, and perhaps Plant Pathology).

Staff Arrangements.

For such a Course the following additional staff would probably be required: —

	£	
A Full-time Lecturer in Botany at	550	p.a.
A Full-time Lecturer in Veterinary Science ..	550	p.a.
A Part-time Professor of Agriculture (also head of affiliated Agricultural College) ..	500	p.a.
A Full-time Lecturer in Agricultural Chemistry	550	p.a.
Special Lecturers at a Salary of (say) of £75 each would be needed for—		
(*a*) Fruit Culture and Viticulture;		
(*b*) Dairying;		
(*c*) Economics;		
(*d*) Entomology;		
four at £75	300	p.a.
(*a*) A Course in Bacteriology could possibly be provided for in the Medical School.		
(*b*) A Course in Agricultural Engineering could probably be provided for in Engineering Department.		
(*c*) A Course in Agricultural Geology could probably be provided for by natural development of Geology Department.		
Laboratory Assistants—one each for Botany, Agriculture and Veterinary Science—two at £250	500	
Cleaning	50	
Maintenance of Agricultural and Veterinary School	100	
Botany and extra Courses in Biology Department	50	
Travelling expenses for the whole Staff of Faculty or Department	200	
Extra Maintenance for existing Departments—		
(Chemistry (for Agricultural Chemistry)	40	
Geology (for Agricultural Geology) ..	10	
Pathology Department of Medical School (for Agricultural Bacteriology) ..	20	
Total	£3,420	p.a.
Library Maintenance	50	
Library equipment (say)	150	
Equipment, including microscopes, apparatus, furnishings (say)	3,000	
	£6,620	

On estimating the accommodation necessary for a Department of Agriculture plus Veterinary Science, we have assumed that thirty should be the minimum number of students required to justify the establishing and equipping of a Faculty. The figure is thus not based on the experience of the other Australian Universities. It would be futile to make provision for the accommodation of only eight or ten. In the following estimates, we have then taken twenty as a possible number of first-year students, and sixty as the total in the Faculty.

Lecture Room—

Two to accommodate 30 students, each (say) 18 ft. x 20 ft.	360	sq. ft.
	360	„
Laboratories—		
Agricultural, 20 ft. x 24 ft.	480	„
Veterinary Science, 20 ft. x 30 ft. ..	600	„
Workshop, 20 ft. x 15 ft.	300	„
Store, 12 ft. x 15 ft.	180	„
Professor's Room and Office, 15 ft. x 20 ft.	300	„
Lecturers' Room—		
Veterinary Science (1), 15 ft. x 20 ft.	300	„
Part-time Lecturer (1), 12 ft. x 15 ft.	180	„
Agricultural and Veterinary Museum, 30 ft. x 20 ft.	600	„
	3,660	„
Add 10 per cent. for passages, conveniences, &c.	366	„
	4,026	„
(Say)	4,000	„

As a set-off against the annual cost, one should take into consideration the fees expected from students. In the light of the experience of other Australian Universities, this item would probably be negligible.

Appendix X.

The Report, Sec. 43.

Report of the Board of Faculties on the Requirements of a Faculty of Commerce in the University.

Minimum Requirements.

1. The Board is of opinion that candidates for a Degree in Commerce should attend lectures and pass examinations in—

(*a*) *Compulsory Subjects*—

Commercial Geography;
Economics I.;
Economic History (with parts of British History I.);
Economics II.;
Statistics and Statistical Method;
A language other than English;
Mercantile Law (Contracts and Transport);
Bookkeeping, Accountancy, and Business Methods.

(*b*) *Certain Optional Subjects from the following Group*—

Auditing;
Actuarial Science;
Rights and Duties of Trustees and Receivers;
Company Law and Bankruptcy Law;
Industrial Law.

Staff Requirements.

2. It should be possible to arrange for the work in Bookkeeping, Accountancy, and Business Methods to be taken at the Central Technical College.

3. Provision already exists in the University for certain of the Courses appearing above; for the remaining subjects the minimum of additional assistance required would be as follows:—

	£
(*a*) One Full-time Lecturer or two Part-time Lecturers in Modern European Languages (for Commercial subjects only)	550
(*b*) One Full-time Lecturer or two Part-time Lecturers to deal with Commercial Geography and Audit and Trustee work	550
(*c*) One special Lecturer in Mathematics for Statistical and Actuarial subjects	550
(*d*) One Lecturer in Law	550
	£2,200

4. If this Course were made available for external students, it would doubtless necessitate additional assistance in the Department of Correspondence Studies, involving another £400 per annum.

5. If the study of Geography were further developed in the University by the establishment of a Lectureship in that subject, the Lecturer appointed would doubtless be able to provide also the Course of Lectures required in the Faculty of Commerce.

6. In the case of the Lecturers required for the Courses on Modern European Languages and on Mathematics for Statistical and Actuarial subjects, it is possible that, in the normal course of development of the work of the existing Faculties, extensions would have to be made in these directions. About one-half of the expenditure in this connection might, therefore, be reasonably regarded as a charge against extensions in existing Faculties.

7. In the event of the establishment of a Faculty of Law, the lectures in Law subjects for Commercial students could doubtless be supplied by that Faculty. In these circumstances,

the proportion of the cost to be charged against the Faculty of Commerce would be £250. (*See* Clause 7 (*e*) of Appendix XI.)

Number of Students and Fees.

8. The Board has had some difficulty in forming an estimate as to the number of students likely to read for a Commerce Degree. Assuming that the course would be an evening course, spread over five years, it is not likely that the number of students in the Faculty of Commerce would exceed forty in ten years' time.

9. From such an enrolment, an amount of about £300 a year might be expected from fees.

Accommodation.

10. The matter of accommodation for this Faculty is provided for in the Schedule respecting accommodation attached to Appendix III.

Library Equipment and Maintenance.

11. The establishment of a Faculty of Commerce would call for an addition to the Library Equipment and Maintenance Votes. An amount of not less than £200 would be needed for equipment, and about £50 a year for maintenance.

Summary.

12. From the above particulars it would appear that, apart from the accommodation, furniture, and fittings required, the initial cost for equipment for a Faculty of Commerce would be about £200.

13. Presuming (as far as the purposes of this Report are concerned) that the work of this Faculty would be limited to students who could

attend the lectures, the net additional annual cost of maintenance involved in the establishment of a Faculty would be as follows:—

	£	£
(*a*) Salaries, as specified in 3 above ..	2,200	
(*b*) Library maintenance	50	
(*c*) Miscellaneous expenses (including cleaning, lighting, printing, administrative assistance, &c.)	100	
		2,350
Less—		
(*d*) Possible revenue from fees (Clause 9)	300	
(*e*) Proportion of salaries to be charged to existing Faculties (Clauses 5 and 6) (say)	550	
(*f*) Adjustment with Faculty of Law ..	300	
		1,150
Net additional annual cost		£1,200

Appendix XI.

The Report, Sec. 57. *Report of the Board of Faculties on the Requirements of a Faculty of Law in the University.*

STAFF.

1. The minimum staff requirements of a Faculty of Law would be—

	£
(*a*) A Professor (maximum salary per annum)	900
(*b*) Four Lecturers (part-time)	800-900
Total salaries	£1,700-£1,800

2. If a Department of Commerce were also established, the initial staff requirements of the Faculty of Law (to meet also the needs of certain Courses in the Department of Commerce) would be—

	£
(*a*) A Professor (maximum salary per annum)	900
(*b*) A Full-time Lecturer (salary per annum) ..	550
(*c*) Three Lecturers (part-time)	600
	£2,050

ACCOMMODATION.

3. Particulars in regard to the accommodation which should be provided to meet the needs of a Faculty of Law have been inserted in the Schedule attached to Appendix III.

EQUIPMENT.

4. Apart from the accommodation (including furniture and fittings) that would have to be provided, the only other initial expenditure that the establishment of this Faculty would involve would be in the procuring of a sufficiently well-equipped Library, the cost of which would probably amount to £1,500.

Students and Fees.

5. The number of students likely to enrol in this Faculty would not be large. If the number of scholarships available for the Course were strictly limited, and the rate of fees for other students approximated the scale in operation in other Australian Universities, a revenue of about £400 might be obtained from this source.

6. The above amount might be considerably increased if a Law Certificate were established, and those qualifying as Solicitors were required to take the subjects of the Certificate.

Annual Maintenance.

7. It is estimated that the annual cost to the University of a Faculty of Law would be as follows:—

	£	£
(*a*) Salaries of Staff as indicated in 2 above	2,050	
(*b*) Library maintenance	250	
(*c*) Miscellaneous expenses (including cleaning, lighting, printing, administrative assistance, &c. (say)	100	
		2,400
Less—		
(*d*) Students' fees	400	
(*e*) Proportion of salaries to be charged to Department of Commerce (representing the difference between amounts in paragraphs 1 and 2 above)	250	
		650
Total net annual cost ..		£1,750

Appendix XII.

Report of the Board of Faculties on the Requirements of a Faculty of Medicine (Including Dentistry) in the University.

(1) General Consideration.

The Board considers it desirable to quote at length from a report submitted to the Senate by a Committee presided over by Sir David Hardie, on the 17th July, 1914, dealing with the statistical aspect of this question.

From this report it appears that at that date—

(*a*) It was estimated that the supply of medical practitioners was of the order of one to every 1,800 of the population.

(*b*) The average number of additional registrations for the preceding five years was 49.

(*c*) The estimated annual increase in medical practitioners resident in Queensland was 23.

(*d*) The discrepancy between these two numbers was attributed to the presence of men doing *locum tenens* and insurance work.

(*e*) The actual increase in number of practitioners (23) was greater than the estimated number required, which was 16, made up as follows:—

To balance increase in population, say	11
To replace losses by death, say ..	5
Total	16

(*f*) It was pointed out that had a Medical School been established in 1914 the annual number of additional practitioners required by the time the first students had graduated was estimated at twenty.

(*g*) Additional to the estimated need for twenty additional practitioners by the year 1919, it was admitted that there was a legitimate demand for a certain but unestimated number of graduates, to act as *locum tenens* and for insurance work.

(2) The Public Need for a Faculty of Medicine.

The existence of a public need is, in our opinion, unquestioned. This opinion is based on the following considerations, many of which are adumbrated in the report already referred to:—

(*a*) The population of Queensland is such that, making due allowance for the natural increase in population and for the death rate amongst medical practitioners, something like twenty-five duly qualified medical men are required per annum.

Statistics show that actually about forty-eight such men are imported into Queensland every year from the Southern States and from England.

(*b*) It is desirable that these vacancies should be filled rather by the students graduating from this State than by importations, since it is probable that, with certain exceptions, the best graduates from other States remain

in those States. The majority of graduates leaving their home State will be taken from amongst the rank and file of such graduates.

It is, moreover, known that of the Queensland students who proceed to other Universities to do their Medical Course, a considerable proportion of the best and most promising never return.

(*c*) The perpetuation of the present arrangement, under which it is necessary for intending graduates in Medicine to proceed to other Universities unduly increases the cost of training, and so unduly limits the number of students who can attempt to take the Course.

It should be our aim to grant opportunity to intellectual ability wheresoever this may be found.

(*d*) Queensland, situated as it is in the tropics and sub-tropics, is uniquely the State in which a joint teaching and research institution should exist for the purpose, not only of studying the special diseases which are found here, but also of making the knowledge and information that is acquired especially accessible to those students who would subsequently practise in the State.

(*e*) Notwithstanding the importation into the State of about fifty medical men

per annum, we believe that it is a fact that the remoter country districts are very inadequately provided for in the matter of medical attention.

(*f*) The presence of an efficiently staffed and reasonably equipped Medical School in the State must inevitably react on the general body of medical practitioners, and tend to raise their already high standard of practice.

(3) The Public Demand for a Faculty of Medicine.

This can only be gauged by the number of students coming forward, and by the experience of other Universities.

The probable number of students can only be estimated approximately.

Inquiries sent to a few of the secondary schools in Queensland in 1918 elicited the fact that there were at that time, in the five schools approached, about thirty boys whose intention it was to proceed to a Degree in Medicine.

During 1919 there were about twenty-four students attending classes in the first year of the Faculty of Science in this University, whose intention it was to proceed to the second year of Medicine, either at Melbourne or Sydney. This year the number taking classes with a similar object is nineteen.

Were a Faculty of Medicine in existence in Brisbane the demand would certainly increase

largely, due to the coming forward of many students who are debarred by financial considerations from going South.

After careful consideration we make the following estimate of the probable number of students in the Faculty after it had been five years in existence:—

Students in first year ..	.. 50
Students in second year	.. 35
Students in third year	.. 25
Students in fourth year	.. 25
Students in fifth year	.. 25
Total	.. 160

We consider that this is a conservative estimate, and that by the end of the tenth year after inception the total number of students in the Faculty would be about three hundred.

The Experience of other Universities.—The Medical School in most Universities contains the greatest number of students. Both at Melbourne and Sydney, it is the only school, the cost of which is approximately met by the fees collected from students.

(4) Possible Objections to the Establishment of a Faculty of Medicine.

The only objecions that it seems possible to put forward are the following:—

(*a*) *Possible High Initial Cost.*—This question is one for consideration. An estimate of the probable cost of the School follows later in the Report.

(*b*) *The Possibility of Overcrowding the Medical Profession.*—This objection is one that can only be raised by a certain small section of the Medical Profession. It is, in any case, not an objection that the Senate would be justified in taking into consideration.

(5) Scholarships in Medicine.

The Board is of opinion that, in view of the monetary value of the Degree in Medicine to the Graduate, it is either undesirable to allow scholarship-holders to enter the School of Medicine; or if scholarships are awarded it should be on the express condition that the amount of the scholarship-money should be refunded to the University within a period after graduation, which shall be decided by the Senate.

(6) Cost of Maintenance.

The subjects that are taught in a modern School of Medicine include the following:—Chemistry, Physics, Biology, Anatomy, Histology, Physiology, Bio-Chemistry, Pathology, Bacteriology, Theory and Practice of Medicine, Obstetrics, Gynæcology, Therapeutics, Materia Medica, Pharmacy, Public Health, Hygiene, Forensic Medicine, Medical Psychology, the Diseases of Children, Diseases of the Eye, Ear, and Throat, Principles and Practice of Surgery, and Clinics.

The following is an outline of the staff and expenditure that would be necessary and sufficient to cope with the foregoing list of subjects:—

	Cost.	When Appointed.
Department of Anatomy (with Histology)—	£	
Professor	900	April of first year.
Lecturer	550	Second year.
Attendant	250	Second year.
Maintenance	150	Second year.
Cadavers	200	Second year.
Department of Physiology and Bio-Chemistry—		
Professor	900	April of 1st year.
Lecturer	550	Second year.
Attendant	250	
Maintenance	200	
Boy	75	Third year.
Department of Pathology and Bacteriology—		
Professor	900	April of second year.
Lecturer	550	Third year.
Attendant	250	Third year.
Maintenance	150	Third year.
Boy	75	Fourth year.
Cleaning and lighting	150	Third year.

The remaining subjects would be dealt with by practising Lecturers as follows :—

Theory and Practice of Medicine	250	Half in fourth year.
Obstetrics and Gynæcology	250	
Therapeutics, Materia Medica, and Pharmacy	250	
Public Health (Hygiene) / Forensic Medicine	250	
Psychiatry	250	
Diseases of Children	250	Half in fifth year.
Diseases of Eye, Ear, Nose, and Throat	250	
Principles and Practice of Surgery	250	
Library Maintenance	150	Second, Third, fourth year.
Extra cost of Chemistry, Physics, and Biology on basis of 90 students in first year	900	First year.
	9,150	

The net cost of running the school would work out as follows:—

First Year.

Debit.	£
Extra cost of Chemistry, Physics, and Biology	900
Three-quarters of salary of Professor of Anatomy and Physiology	1,350
	£2,250
Credit.	
Fifty students at £21	1,050
Net Cost	1,200

Second Year.

Debit.	£
Faculty of Science	900
Two and three-quarters Professors' Salaries	2,475
Two Lecturers	1,100
Two Attendants	500
Maintenance and Cadavers	550
Cleaning and Lighting	100
Library	50
	£5,675
Credit.	
Fees from Fifty Students at £21 .. 1,050	
Fees from Thirty-five Students at £25 875	
	1,925
Net Cost	3,750

Third Year.

Debit.	£
Faculty of Science	900
Three Professors	2,700
Three Lecturers	1,650
Three Attendants	750
Maintenance and Cadavers	700

One Boy		75
Cleaning and Lighting		150
Library		100
		£7,025

Credit.

Fees from Fifty Students at £21 ..	1,050	
Fees from Sixty Students at £25 ..	1,500	
		2,550
Net Cost		4,475

Fourth Year.

Debit.		£
Costs as shown for Third Year		7,025
One Boy Additional		75
Library Additional		50
Four Practising Lecturers at £250 ..		1,000
		£8,150

Credit.

Fees from Fifty Students at £21 ..	1,050	
Fees from Eighty-five Students at £25	2,125	
		3,175
Net Cost		£4,975

Fifth Year.

Debit.		£
Costs as for Fourth Year		8,150
Additional Appointments of Lecturers, Four at £250		1,000
		£9,150

Credit.

Fifty Students at £21	1,050	
One Hundred and Ten Students at £25	2,750	
		3,800
Net Cost		5,350

The foregoing is summarised as follows:—

Year.	Gross Cost.	Students' Fees.	Net Cost.	Add 10% for Contingencies —Total Cost.
	£	£	£	£
First	2,250	1,050	1,200	1,320
Second	5,675	1,925	3,750	4,125
Third	7,025	2,550	4,475	4,922
Fourth	8,150	3,175	4,975	5,473
Fifth	9,150	3,800	5,350	5,885

With the natural increase in the number of students which is to be anticipated, the revenue from fees may be expected to increase in very much greater ratio than the cost of the consequential increase in staff, and therefore the net cost of £5,885 is to be regarded as a maximum, provided that our estimate of the probable number of students is approximately correct.

The cost will be increased, if scholarships are held in Medicine, by an amount proportional to the number of scholarships granted.

(7) Cost of Equipment.

This is exceedingly difficult to estimate. The best we can do is to weigh carefully the available evidence from other States. Making due allowance for the relatively small size of our probable classes, and for the advances of cost of this class of material, we venture to make the approximate estimate of £9,000 for the Departments of Anatomy with Histology, Physiology with Bio-Chemistry, and Pathology with Bacteriology.

For the Medical Library we estimate that the sum of at least £500 will be required.

(8) Accommodation Required.

The following estimates are based on the assumption that the School of Medicine will

undergo expansion within ten or twenty years so as to contain 300 students, distributed as follows:—

	Number of Students.
First year	90
Second year	60
Third year	50
Fourth year	50
Fifth year	50
Total	300

The Lecture-room accommodation has been estimated on the basis of 12 square ft. per student.

The Laboratory accommodation has been estimated on the basis of 24 square ft. per student, in the case of all laboratories except those of second-year Physiology with 35 square ft., and Bio-Chemistry with 40 square ft. per student.

The students expected in each Department and the size of each room are as set forth in the following tables:—

Department of Anatomy (with Histology).

Room.	Number of Students	Floor Area. Sq. ft.
Lecture-room	80 ..	960
Laboratory for second year ..	60 ..	1,440
Laboratory for third year ..	50 ..	1,200
Histology laboratory ..	60 ..	1,440
Museum	.. ..	1,400
Research laboratory	.. ..	400
Preparation room	.. ..	700
Attendants' room	.. ..	180
Lecturers' room	.. ..	180
Professors' room	.. ..	300
Students' lavatory and locker-room	120 ..	600
Storeroom	.. ..	400
Total	..	9,200

Department of Physiology (with Bio-Chemistry).

Lecture-room	.. ..	80 ..	960
Lecture-room	.. ..	50 ..	600
Second year laboratory	..	60 ..	1,440
Third year laboratory	..	50 ..	1,750
Bio-chemical Laboratory	..	60 ..	2,400
Physiological preparation-room	.. ..		320
Bio-chemical	.. .. ..		320
Store	.. .. ..		400
Lecturers' room	.. .. ..		280
Professors' laboratory	.. .. ..		320
Professors' office	.. .. ..		180
Research laboratory	.. .. ..		400
Total	.. ..		9,370

Department of Pathology (with Bacteriology).

Lecture-room	.. ..	60 ..	720
Pathology laboratory	..	50 ..	1,200
Bacteriology laboratory	..	50 ..	1,200
Research laboratory ..	.. .. ..		400
Museum	.. ..		1,400
Store	.. .. ..		400
Preparation room (pathology)	.. ..		320
Preparation room (bacteriology)	.. ..		320
Lecturers' room	.. .. ..		280
Professors' room	.. .. ..		320
Total	.. ..		6,560

General—

Large lecture-room	.. ..	120 ..	1,440
Small lecture-room	.. ..	50 ..	600
Four lecturers' rooms each 12 x 15	.. .. ..	..	720
Medical library	.. .. ..	..	1,200
			3,960

Summary—

Department of Anatomy	.. ..	9,200
Department of Physiology	.. ..	9,370
Department of Pathology	.. ..	6,560
General	.. ..	3,960
Add 6 per cent. for passages	..	1,750
Grand total ..	.. ..	30,840 square feet.

We do not attempt to offer an estimate of the cost of this accommodation.

The cost of fittings for rooms and laboratories enumerated above might be expected to be at least £10,000, made up as follows:—

	£
Anatomy	3,000
Physiology	4,000
Pathology	3,000

(9) Department of Dentistry.

The subjects taught in this Department of the Faculty of Medicine of the University of Sydney are the following:—Physics, Elementary Metallurgy, Chemistry, Elementary Anatomy, Mechanical Dentistry, Histology, Physiology, Surgery Dentistry, Regional Anatomy, the Anatomy of Teeth, Materia Medica and Therapeutics, General Pathology, Surgery, Bacteriology, Anæsthetics, special Chemical Courses in Medicine and in Surgery.

Of these, Physics and Chemistry are already provided for. The majority of the remainder would be provided for by the establishment of a Faculty of Medicine.

Subjects such as Mechanical Laboratory work, Dental Clinics, &c., would no doubt be taught at the Dental Hospital. Courses of lectures in Surgical Dentistry, Mechanical Dentistry, and special subjects, such as the Anatomy of Teeth, would have to be undertaken by the appointment of practising Lecturers. We estimate that an additional sum of £1,000 per annum would more than meet the extra expenditure involved, and would be more than covered by students' fees.

It would, however, be necessary to enlarge the lecture rooms in the Departments of Anatomy, Physiology, and Pathology.

No enlargement of laboratories would be needed, as these students could, if necessary, attend the laboratories when they were not being used by Medical students.

Additional locker space would have to be provided for in the School of Anatomy.

General Summary.

(1) Estimated number of students—

	At Inception.	After 10 years.
First year ..	50	90
Second year ..	35	60
Third year ..	25	50
Fourth year ..	25	50
Fifth year ..	25	50
Total ..	160	300

(2) Estimated cost of running when fully working—

	£	£
Cost of maintenance of Medical School	8,250	
Extra cost of existing Department	900	
		9,150
Credit, Students' Fees		3,800
Net cost		5,350
Add 10 per cent.		535
Total		£5,885
Additional for Department of Dentistry		£1,000

(3) Approximate estimate of equipment £9,000

(4) Estimate of Accommodation needed—

Department of Anatomy, &c...	9,200	square feet
Department of Physiology ..	9,370	„ „
Department of Pathology ..	6,570	„ „
General	3,960	„ „
Add 6 per cent. for passages, &c.	1,750	„ „
Total floor space ..	30,840	„ „

(5) Approximate estimate of fittings and furnishings .. £10,000

Appendix XIII.

The Report, Sec. 65.

Report of the Board of Faculties on the Requirements of a Faculty or Department of Music in the University.

1. The experience of other Universities shows that theoretical instruction in Music must be accompanied by organised practical training. Hence the Conservatorium. The University Professor in Music is entrusted with the wider aspects of the history and theory of Music. For the rest, the student depends on the Conservatorium.

2. A Degree qualification implies insight into the wider aspects of the subject; and to secure this a teacher of professorial qualifications would be required. For that reason and also for co-ordination in practical working, the establishment of Degree Qualifications entails the appointment of a Professor.

3. A License or Diploma qualification might be given without a Chair being in existence.

4. A Faculty may not be necessary in either case (certainly not in the second), but a body comprised of experts and responsible to the Senate would be required to determine the scope of work and to judge of qualifications.

5. It should always be remembered that on the expert competence of this body will depend the value of the qualifications issued by the University.

6. In Melbourne University, the salary of the Professor of Music is met from a special endowment. The Conservatorium is run as a separate account, and fees are charged sufficiently high (£29 8s. per annum) to meet all ordinary maintenance expenses of the Conservatorium. Apparently candidates for a Degree pay special University fees for definitely Uni-

versity lectures and examinations. These Degree students form only a small part of the Conservatorium students.

7. Two schemes seem possible here.

(*a*) To establish a Conservatorium with Director, and grant merely a License or Diploma.

(*b*) To establish a Conservatorium, with a Professor of Music as General Director, and grant Degrees by means of a Faculty of Music or a Board exercising the function of a Faculty.

8. To judge from Melbourne University, a Conservatorium may finally meet expenses (less Director's salary and without reckoning on interest on original outlay) if a considerable fee is charged.

9. In Adelaide, where the annual fee is £14 14s., the Conservatorium funds have to be supplemented. In 1918, for all branches of Musical Education in Adelaide (including local examinations) expenses exceeded receipts by almost £1,000.

10. For the opening years a very considerable deficit would be probable.

11. Much of the ultimate success would depend on the reputation of the Director. A large outlay on his salary might prove financially the sound policy.

12. The expenses of the purely University side of the scheme would not to any large extent be recovered in fees.

13. The revenue from Music Examinations in local centres is to a large extent a distinct question. No doubt, a certain amount of revenue could be derived from that source if the University could capture the local examinations.

The establishment of a teaching centre in Brisbane would have a considerable effect in that direction.

14. The general conclusion is that under Scheme (*a*), the University would have to find initial cost of building and equipment (including library), which would be considerable. The University would also have to meet part of salary of Director. The Conservatorium might finally be expected to meet other maintenance expenses, if a high fee were charged, but would have to be subsidised for some years.

15. Under Scheme (*b*) the University would have to meet, in addition to the original outlay, the whole salary of the Professor, who would be general Director of the Conservatorium. There would also be some addition to University administrative expenses. The return in Degree fees would be inconsiderable.

16. It always has to be remembered that if scholarships are granted on present conditions, the income from fees is reduced proportionately.

17. In the absence of detailed expert evidence in this branch, it is impossible to give any reasonably close financial estimate.

Appendix XIV.

The Report, Sec. 99.

Report of the Public Lecture Committee on the Question of a Systematic Extension of the Extra-Mural Activities of the University.

I. Objects of the Proposal.

1. To raise the general standard of Adult Education, uniformly and systematically, regarding Adult Education as a permanent national necessity and an inseparable aspect of citizenship.

2. To bring the University, the chief educational institution of the State, into a more direct relationship with the people of Queensland, and to make more generally available the advantages of a University education.

3. To emphasise the value of non-professional and non-vocational education, and to encourage the acquaintance of knowledge, not for purposes of gain, but for its own sake and for the benefit of the community.

4. To systematise the present disconnected extra-mural activities of the University.

II. The Present Extra-mural Activities of the University.

1. Those directed by the *Public Lecture Committee.*—Public Lectures are of no great educational value; they make no provision for systematic study. They are too disconnected and too infrequent. At present they are available only in Brisbane, and the audience has generally no serious determination to submit to any intellectual discipline. The advantages arising from a free discussion and interchange of ideas are not present.

2. *The Workers' Educational Association.*—Classes and study circles are of considerable

educational value, as provision is made for discussion, essay writing, and systematic study. At present the W.E.A. has no influence in Queensland beyond Brisbane and its immediate neighbourhood. The W.E.A. makes a stronger appeal to one section of the community than to others.

3. *The Department of Correspondence Studies.*—Notes of University lectures are supplied to external students in all parts of the State. These students pass the ordinary University examinations. The Department is used chiefly by those who are desirous of improving professional qualifications (State school teachers). Subjects at present available are taken from the Arts Course. The notes as supplied are really little more than an inferior text-book, which is crammed for examination purposes.

4. It may be admitted that each of these (1, 2, and 3) performs its duties efficiently, but if Adult Education be considered as something worth working for, if the University is to extend its influence generally over the movement throughout the State, some co-ordination of these three aspects of University extra-mural activities should be attempted, having in view the need for—

(1) The maintenance of a high standard;
(2) The encouragement of systematic study;
(3) General availability;
(4) Direction by the University.

III. The Conditions.

1. There is a growing demand for a Higher Education. It is the duty of the University to satisfy this demand as far as it is able from the resources at its disposal. It is the duty of the Government to assist the University in a work which is of national importance.

The existence of this demand is proved by the organisation of the W.E.A., the Workers' School of Social Science, Scientific and Literary Clubs, and many other private and semi-private organisations.

It may be taken for granted that in almost every centre of population, however small, there is some individual interested in, and more or less qualified to direct, advanced study of certain subjects. Such would be, perhaps, lawyers, doctors, clergymen, or school teachers. It will always be possible to arrange with the Department of Public Instruction for the appointment of some such teacher at any place—perhaps it will be necessary to promise future preferential treatment.

2. The centres from which a general scheme of Adult Education and University Extension Work could be controlled are—

(1) Brisbane—Metropolitan districts and South-eastern Queensland.
(2) Toowoomba—South-western Queensland.
(3) Rockhampton—Central Queensland.
(4) Townsville—Northern Queensland.

3. At present many of the graduates of the University, who have acquired special knowledge in particular subjects, are not given opportunity of using that advanced knowledge for the benefit of the State. This proposal aims at the fullest utilisation of the knowledge of exceptional students.

IV. Proposals.

1. *General Organisation*—

(1) In each town there will be formed a Committee of townsfolk which will constitute a local council for the organisation of the Adult Education Movement in that centre.

(2) In each of the four districts there will

be appointed a district Lecturer to co-operate with the Committee so formed within the district.

(3) For the State there will be appointed a Chief Lecturer.

Note.—Brisbane and the larger towns (with suburbs) may well have several Committees.

2. *The Chief Lecturer* will have professorial status, and be a member of the Board of Faculties. His work will be largely administrative. His headquarters will be in Brisbane. He will devote a certain portion of his time to lecturing within the University. He will make periodic tours through the State to arouse interest in Adult Education, and to give public lectures as may be arranged in various country centres. Generally, he will supervise and direct the district lectures.

In the Chief Lecturer, as well as in the District Lecturers, enthusiasm and interest in the work will count for as much as academic qualifications, which for such a position will not in themselves be sufficient. The personality of these men will be of fundamental importance, as in many ways they will be educational propagandists. They must be whole-heartedly interested in and devoted to the work.

3. *District Lecturers.*—Each with headquarters in one of centres already mentioned.

The District Lecturer will visit during each year six towns within his district. He will stay in each for five weeks, during which time he will give Special Courses (say two, of five lectures each), and he will also arrange and organise study circles, which will be carried on by the townsfolk during the other portion of the year.

The District Lecturer posted in Brisbane will be required to devote a portion of his time to lectures within the University, partly for the purpose of relieving the regular University

staff, partly to keep him in touch with University methods and University standards. It is proposed that the District Lecturers be appointed as follows:—

History and Economics	One
Literature	One
Classics or Philosophy	One
Science	One

The District Lecturers will be moved each year, each Lecturer in turn being posted in each district—this, partly to give them wider and more varied experience, to prevent them dropping into grooves, but also to give a rotation of specialists in different subjects to the districts. Also, in this way as different District Lecturers are posted in Brisbane, there will be a rotation of relief provided to the regular Lecturing staff of the University.

District Lecturers will be *ex officio* members of all Town Committees within their districts.

4. *Town Committees.*—The chief duty of the Town Committee will be to arrange with Local Directors of Study Circles and for special lectures with the District Lecturer. The Town Committee will emphasise the social side of Education, will control local libraries, negotiate with local authorities for financial assistance, accommodation, &c.

It is at this point that the Department of Correspondence Studies may be used. It is proposed to do away with the existing practice of which the regular Lecturing staff revises the notes before transmission to Correspondence students. The Department will be reorganised, an expert staff will be provided, the members of which will transcribe the notes in a form suitable for use in the Study Circles of the towns.

It will be necessary for the Chief Lecturer to decide, after consultation with District

Lecturers who are in touch with the Town Committees, what subjects shall be made available to Study Circles during each year.

Consequently the work of the Correspondence Department will be extended to Science subjects.

In the case of smaller towns, no difficulty need be anticipated in the formation of the Town Committees. In the case of the cities and suburbs, the assistance of the local authorities should be sought, and existing educational institutions should be asked to co-operate in the selection of the first committee. Of course, in Brisbane, which is regarded as a district, there would be several committees—*e.g.*, in South Brisbane, North Brisbane, and in each of the populous suburbs.

V. General Remarks.

1. This proposal does not arise from any hostility to the W.E.A. It merely suggests to carry out, on a wider scale, and on a systematic basis, the ideals recognised but not widely applied by the W.E.A. itself, and with the University as the controlling authority from the Educational side.

2. It might be possible to arrange with the Department of Public Instruction that teachers qualifying for Class I. may do so by satisfactorily taking part in three local Study Circles, as the same notes will be provided and the additional advantages of discussion will be present. It seems that for the purposes of the Department this experience will be more valuable than the mere cramming of notes, as is the case at present, for examination purposes. So the Department of Correspondence Studies will come to a position in which its chief interest will be in the Study Circles.

3. Technical Colleges may well be asked to provide facilities for Study Circles under approved direction in Science subjects (*i.e.*, laboratory equipment, &c.).

4. Local authorities will probably co-operate with the movement by providing accommodation and financial assistance (for laboratories, &c.), even if a small rate has to be imposed for the purpose.

5. The proposal is for one Lecturer in each district. There is no reason why this number should not be increased if the scheme operates successfully, even to the extent of (say) three Lecturers in each district. It would then be possible to establish University Colleges at the three country centres at which the first two years of a Degree Course in Arts might be carried out.

6. Even as the proposal stands, the provision of expert tuition to the small country town will be most beneficial, viz.:—

(1) *Special Courses by the District Lecturer*—

First year: Two Courses, of five lectures each in History.

Second year: Two Courses, of five lectures each in Literature.

Third year: Two Courses, of five lectures each in Science.

Fourth year: Two Courses, of five lectures each in Classics or Philosophy.

(2) *Study Circles,* as may be arranged under local direction, using notes provided as the basis of discussion and in consultation with the District Lecturers.

Twenty-four towns and suburbs could be provided for in this way, and if the District

Lecturer changed his itinerary each year, forty-eight towns would get half as much. All of this, in addition to the occasional Special Lectures of the Chief Lecturer or the District Lecturer.

7. Study Circles will be of great advantage to persons who have matriculated and who are proceeding towards a Degree as external students.

VI. PROBABLE COST (on maximum basis).

	Per annum. £
1. Chief Lecturer	900
2. District Lecturers (4)	1,600
3. Expert Assistance to Correspondence Department (4)	1,000
4. Office expenses (4)	1,000
5. Travelling expenses	600
Total	£5,100

Note.—Office expenses would be less if local authorities provided accommodation. Travelling expenses would be less if the Government granted free railway passes.

One each in History, Literature, Classics or Philosophy, and Science.

RESIDENTIAL COLLEGES.

Undergraduates are required during their period of attendance at the University to dwell with their parents, guardians, or some near friend or relative selected by their parents or guardians and approved by the Chancellor, or with an approved tutor, or in a boarding-house licensed by the Senate, or in some collegiate or educational establishment approved by the University. The Colleges mentioned below have been approved:—

EMMANUEL COLLEGE.

Established to afford to Presbyterian and other Students of the University of Queensland resident and domestic supervision, a systematic religious instruction in accordance with the principles of the Presbyterian Church of Australia, and also effectual tutorial assistance in their preparation for the Lectures and Examinations of the University.

Fees.

The following fees shall be paid, namely:—

Registration fee (to be paid when a student's name is entered in the College Register)	One guinea
Caution money	Two guineas
Fee for Academic Year, including Examination week payable in advance (or, per term, Twenty Guineas)	Sixty guineas
Fees for non-residents per term ..	Three guineas

The above fees are to be paid to the Recorder not later than the third week of each term. They cover all College charges for residence, commons, tuition, and library.

During vacations, and after the close of the Annual Examinations, the charge for residence and commons is £1 10s. per week, or 5s. a day.

With any fees paid later than the third week of a term, there shall be paid a further sum of equal to one shilling per day for each day during which after the expiration of such third week such fees

remain unpaid, but the Council may at any time forego or refund such payment or any part thereof upon such conditions as they think fit.

No rebate will be made in case a student enters into residence after the beginning of the term or leaves before its close.

One term's notice must be given previous to the withdrawal of any student, otherwise a charge of £10 10s. will be made.

Principal: The Rev. RICHARD GLAISTER, D.D., Emmanuel College, Wickham Terrace, Brisbane.

ST. JOHN'S COLLEGE.

The College premises are situated at the corner of River Terrace and William Street, Kangaroo Point, exactly opposite the University, which can be reached by ferry in a few minutes.

The services in the College are held in accordance with the formularies of the Church of England, and students are expected to attend, unless there are special reasons to the contrary. The College is freely open to students of all creeds.

The fees are £21 per term, payable in advance. Special arrangements will be made for students who desire to continue in residence during the vacation. All fees must be paid to the Warden not later than the third week in each term.

Efficient tutorial assistance is provided for the students of the College in preparing for the University Lectures and Examinations, in order to guide and test the students' own reading and to remedy its deficiencies.

Prospectuses containing more detailed information may be obtained from the Warden.

Chairman of Council: The Lord Archbishop of Brisbane.
Warden: The Rev. W. H. W. Stevenson, M.A. (Sydney).
Tutors—
Classics and English: The Warden.
Mathematics: H. Greenhalgh.
W. Dancer.
Chemistry: W. J. Chamberlain, B.Sc.
Physics: G. W. Leckey.
Logic and Psychology: R. W. J. Thompson, B.A.

KING'S COLLEGE.

Established by the Methodist Church of Queensland to afford Undergraduates residence near the University together with moral and religious oversight, and tutorial assistance in preparation for University Lectures and Examinations.

The College is open to students of all religious denominations either as resident or non-resident students.

It is situated, for the present, on River Terrace, Kangaroo Point, Brisbane.

The College Fees are as follows:—

Resident Students.—Sixty guineas for the Academical year, or Twenty guineas per University term. During vacation the charge will be £1 10s. per week or part of week.

Non-Resident Students.—Three guineas per term.

All Fees must be paid to the College Bursar in three equal instalments not later than the third week of each term.

Master: The Rev. L. E. BENNETT, M.A. (Melb.), B.D. (London), King's College, River Terrace, Brisbane.

FELLOWS:

Hon. E. W. H. Fowles, M.A., LL.B. (Ormond College, Melbourne).
J. J. Kingsbury, M.A. (Trinity College, Dublin).
G. H. C. Douglas, M.B., Ch.B. (Edinburgh).
A. J. Gibson, Ph.D. (Göttingen).

TUTORS, 1921.

Philosophy and English: The Master.
Classics: To be appointed.
Chemistry and Physics: S. B. Watkins, M.Sc.
Mathematics: S. G. Brown, B.A.
Logic and Psychology: The Master.
Secretary: Rev. William Brown.
Bursar: Mr. Walter Webb.

THE WOMEN'S COLLEGE.

This College was established in 1914 to afford to Women Students attending the University, residence near the University, together with domestic and moral supervision, and tutorial assistance in preparation for University lectures and examinations.

The College premises are situated, for the present, in Shafston road, Kangaroo Point.

The College is undenominational. Students are expected to attend prayers unless there are special reasons to the contrary.

All resident students shall be either matriculated or preparing for matriculation.

The College fees are as follow:—

Resident Students .. .. Twenty Guineas per term.

This fee covers all College dues for residence, tuition, commons, library, and lighting. Students provide for their own laundry work. During vacations, and after the close of the Annual Examinations, the charge will be £1 17s. 6d. for residence and commons per week, or part of week. One term's notice must be given previous to the withdrawal of any resident student, otherwise a term's fees will be charged.

Non-resident Students .. Three Guineas per term.

All fees must be paid to the Women's College Account at the Bank of New South Wales, not later than the third week of each term.

Further information may be had on application to the Principal.

Visitor: The Chancellor of the University.

Principal: FREDA BAGE, M.Sc. (Melb.), F.L.S.

Resident Tutor: Margaret Graham Dawson, B.A.

COUNCIL:

P. B. Macgregor, Esq., B.A. (Oxon.), President.

Mrs. J. S. P. Bourne
Mrs. Brydon
Miss Mackay
A. S. Kennedy, Esq.
The Principal (*ex-officio*)

Secretary to the Council: Miss Bage.

Hon. Treasurer: Mrs. Brydon.

Hon. Solicitor: T. W. Green, Esq.

TUTORS.

Classics: M. G. Dawson, B.A.

Logic and Psychology: Lewis D. Edwards, M.A.

Modern Languages: Dorothy Dennis, B.A.

Mathematics: D. C. Hamilton.

Biology: The Principal.

ST. LEO'S COLLEGE.

This College is recognised as a Residential College, incorporated with the University of Queensland and in connection with the Roman Catholic Church, in which Matriculated Students of the University may enjoy the advantages of residence, instruction in the doctrines of their Faith, and tuition supplementary to the lectures of the University Professors.

No student can be admitted to the College unless he submits to its discipline and attends the Statutory lectures of the University.

The College premises are situated on Wickham Terrace.

The Rector and eight Councillors form the Council, in which the government of the College is vested.

The fees are £20 per term, payable in advance.

A Prospectus giving further information may be obtained on application to the Rector.

Chairman of Council: The Most Rev. James Duhig, D.D., Archbishop of Brisbane.

Rector: The Rev. Edward Barry.

Tutors—

Mathematics: J. J. Lee, B.A.

Chemistry and Physics: H. C. Arter, M.Sc.

Biology: O. W. Tiegs, M.Sc.

ANTHONY JAMES CUMMING, Government Printer, Brisbane.